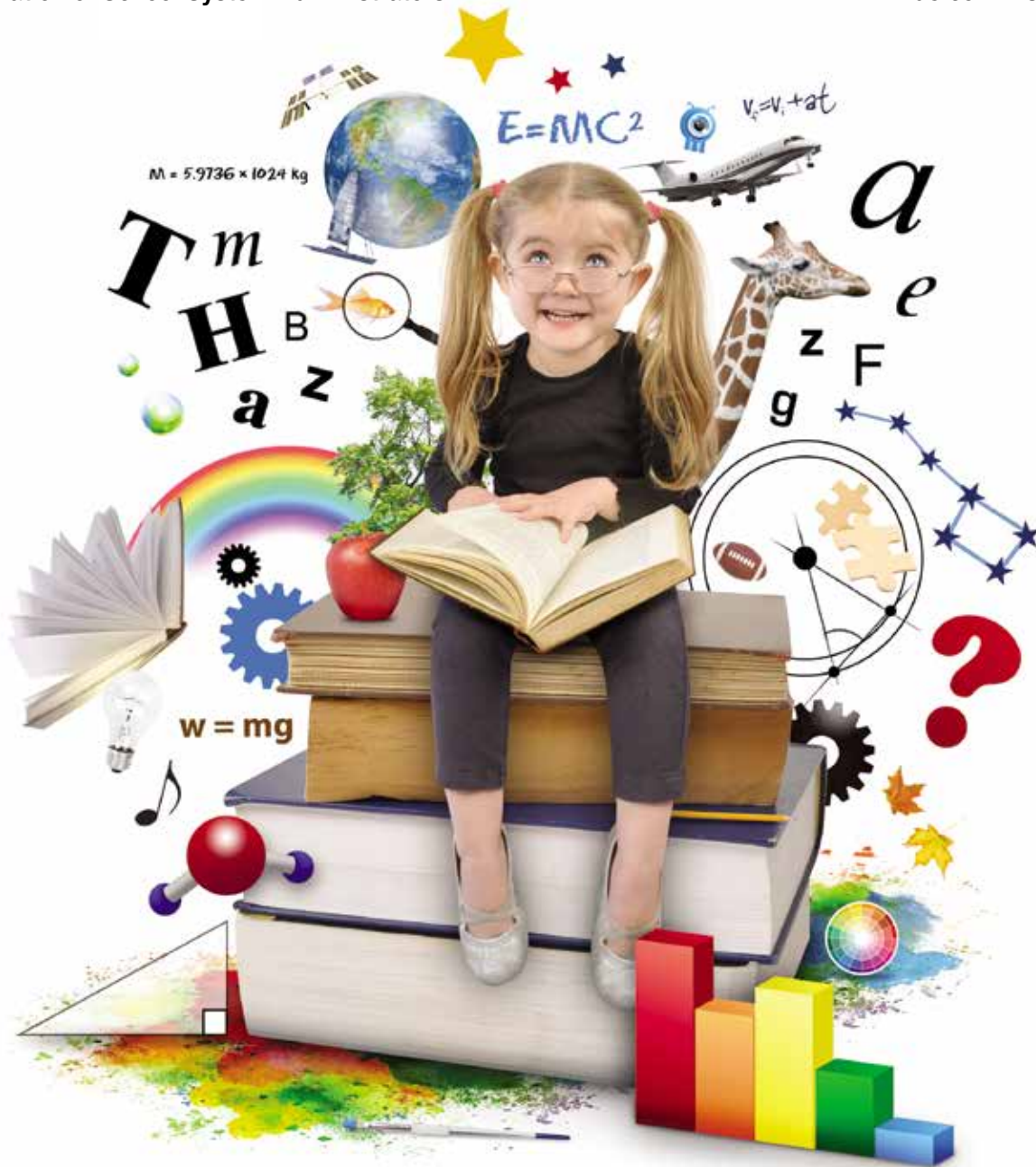


Winter 2014-2015

Leaders & Learners

The official magazine of the Canadian Association of School System Administrators

Association canadienne des gestionnaires de commissions scolaires



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In the words of Bob Dylan, “The times, they are a-changin’.” Although that song was written decades ago in a different context, these lyrics accurately describe the present climate in many of our schools across the nation. These are indeed exciting times. There are many positive changes taking place in the world of education.

This issue of *Leaders & Learners* focuses on a movement that is gaining momentum in schools across Canada—the way in which the arts are being incorporated into classrooms that reflect 21st century teaching and learning practices.

Buzzwords currently circulating in education include innovation, creativity and inquiry-based learning. More and more, educators are embracing the competencies that are required for learning in the modern era: communication, collaboration, creativity and critical thinking. Subject knowledge continues to be important, but skills must also be taught if students are to apply that knowledge in meaningful ways to solve real-world problems and craft the inventions of tomorrow.

There is also increased recognition that integrating knowledge across disciplines is critical for meaningful competency development. One of the more exciting movements underway is the use of a framework that encourages teaching and learning across various subject areas. Many of us are familiar with science, technology, engineering, math (STEM) initiatives in education, but have you heard about STEAM? It stands for science, technology, engineering, arts and mathematics. There is an inclusion of the hard sciences, but also an emphasis on the critical importance of the arts in the educational process. The arts capture a broad range of creative expression, including drama, dance, music, fine arts, literature and design.

The arts and sciences have long been considered subjects worthy of study in their own right. However, traditional educational approaches often kept those disciplines separate and it is only relatively recently that we have begun to embrace more interdisciplinary learning. Many schools are blending the arts and sciences as teachers incorporate more technology and inquiry-based learning into the classroom. The use of educational technology as a transformative teaching tool makes it possible to work in such interdisciplinary ways, not only to acquire knowledge but to synthesize knowledge in an effort to create and innovate.

I was recently reminded of this during a visit to the Canadian Centre for Architecture (CCA) in Montreal. I attended an open house event for educators intended to showcase the rich educational programs that the CCA offers to elementary and secondary schools. Through a series of brief, experiential activities, we learned about student workshop possibilities ranging from understanding basic architectural concepts to urban planning to careers in architecture, art history and design. Architecture is a wonderful example of how the arts and sciences intersect.

To erect a building or create a commemorative garden, one must consider the principles of science, math and engineering while not losing sight of the aesthetics and design features that are inherent in such creations. The workshop offerings of the CCA are intended to help students deepen their understanding of math, science and engineering as well ignite their sense of artistic expression, all while analyzing or creating living spaces.

Leonardo da Vinci is credited with saying, “Study the science of art. Study the art of science. Realize that everything connects to everything else.” There is much evidence that Canadian educators in the modern age are heeding such advice. This issue of *Leaders & Learners* celebrates examples of STEAM-based initiatives that are being used in Canadian classrooms.

It is my sincere wish that the articles in this issue will serve to challenge and inspire us as educational leaders.

As you read through the magazine, you may wish to begin thinking ahead to CASSA’s annual conference that will take place in Montreal next July, since STEAM is also our conference theme. We will devote considerable energy in the coming months to explore how these initiatives are enriching the learning opportunities for students in classrooms all across our great country.

Bonne lecture! Happy reading!



Cindy Finn
CASSA/ACGCS President

**This issue
of *Leaders
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celebrates
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This issue of *Leaders & Learners* highlights outstanding board and classroom practices as we look more deeply into STEAM.



Ken Bain
CASSA/ACGCS Executive Director

I want to welcome everyone back and trust each of you found some time to relax and enjoy a different pace over the summer months! We had a very successful summer conference in Calgary and thank the government of Alberta and our College of Alberta School Superintendents members for their support! More about the 2015 conference later.

This issue of *Leaders & Learners* highlights outstanding board and classroom practices as we look more deeply into science, technology, engineering, arts and mathematics (STEAM). For years, a lot of effort has been devoted to STEM, which was missing the arts. We want to expand that by examining practices in which the arts are integrated into classroom programs that include the other subjects.

There are four in-depth articles from elementary and secondary schools from Ontario and Alberta, each with a fascinating approach to ensure incredibly engaging learning for students! There are also a number of focus articles that span the country from Northwest Territories to Manitoba to Ontario to Quebec. Once again, each of these articles provides a glimpse into how these subjects/disciplines can support one another into integrated and meaningful learning.

I trust you will find them interesting and will spark interest in attending our summer conference!

The AGM signaled a change to the membership of our board of directors. I thank Lee Ann Forsyth-Sells (Ontario/OCSSOA) for her many years of dedication to CASSA and wish her well as she leaves the board. Congratulations to Cindy Finn (Quebec/AAESQ), who begins her two-year term as CASSA president and to Anne O'Brien (Ontario/OCSSOA) who begins her term as president-elect. I also want to express my appreciation to Roger Nippard (Alberta/CASS) who moves to past-president.

New to the board will be Simone Oliver (Ontario/OCSSOA), Cindy Fleet (PEI), Greg Ingersoll (New Brunswick/NBSSA) and Karl Germann (Alberta/CASS). We welcome them and look forward to their contributions!

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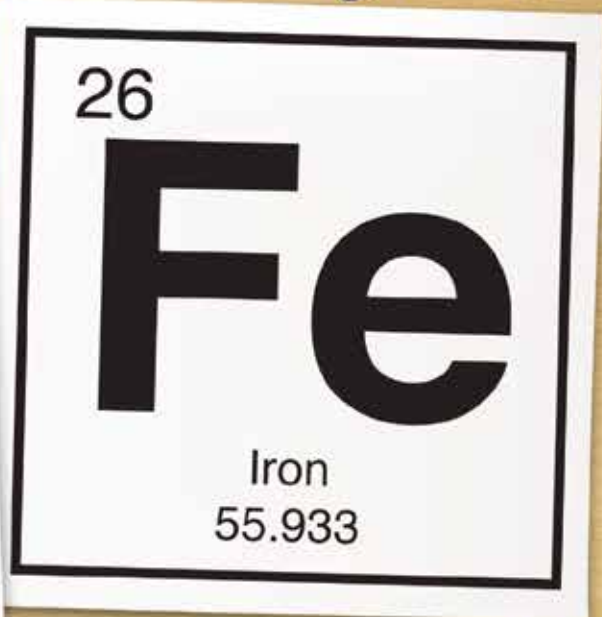
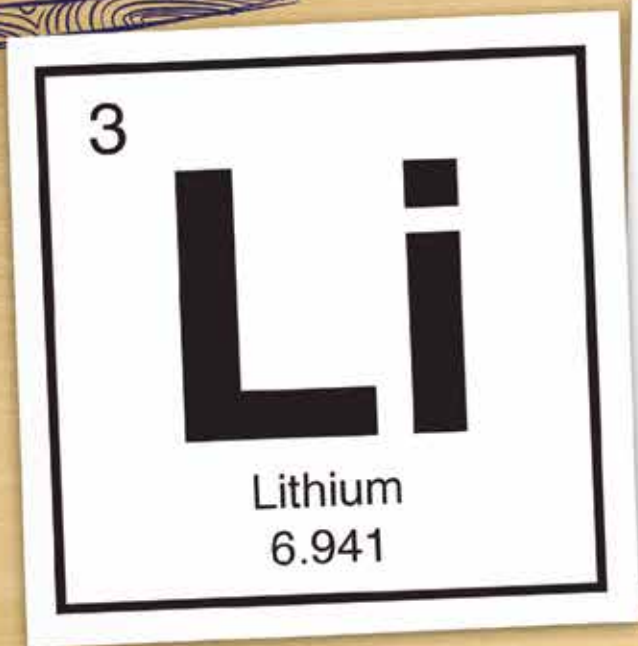
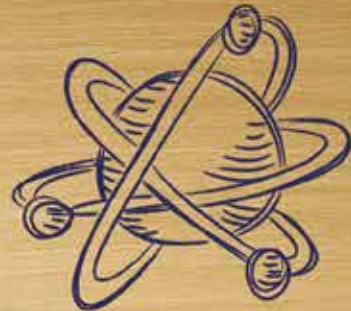
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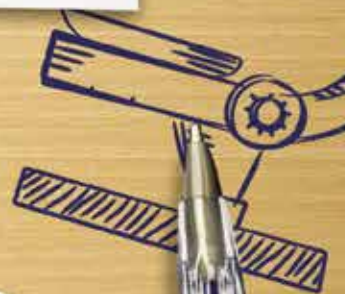
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Jillian Morris pointing to Bimini, in the Bahamas, on the Skype in the Classroom map, which shows all the places the students connected with.



Around the World

with Science & Skype in the Classroom

By Joe Grabowski

This year, my Grade 6 students and I knocked down the classroom walls and left our digital footprints around the globe. It sounds a bit cheesy, but I cannot think of a better way to sum up our learning experiences this year. We have travelled the world, connecting with classrooms and experts from all seven continents, all without ever leaving our desks.

I am a science major; biology and zoology were my fields of study. I am an avid scuba diver and love to travel and explore. Last year I wanted to share my passion for

Welcome to the Shark Tank



Canadian free diver and shark conservationist William Winram (right) and Joe Grabowski (left) in front of the temporarily renamed gym.

nature and science with my students while showing other teachers the impact it can have in their classrooms.

It started the summer of 2013, when I stumbled upon an interesting article online. I learned that the grandson of my personal hero, Jacques Cousteau, was preparing to live in an underwater laboratory for 31 days. Fabien Cousteau's team was going to illustrate the viability of living underwater with

Mission 31. They planned to connect with classrooms along the way in order to share their adventures. There was no question my class had to be on their list. I contacted his PR agent and was steered in the direction of Skype in the Classroom.

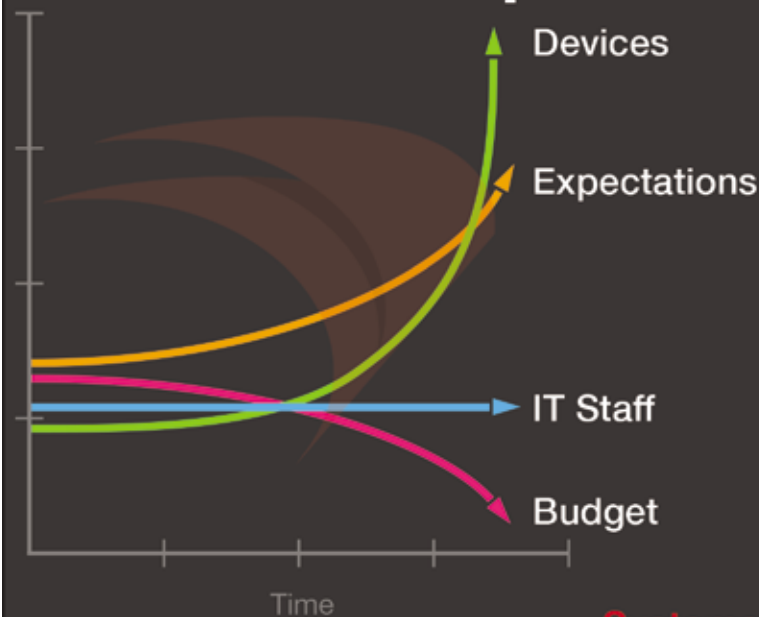
We started in September with a game called Mystery Skype, an interactive game in which two classes from around the world connect. With the use of technology and a series

of "yes" and "no" geographical questions, we raced to identify the other classrooms' location. One group we connected with was from Uganda. They shared with us their traditional African dances. It was a phenomenal experience to see two very different classes dancing together over a distance of thousands of miles. I'll never forget the looks of pure joy on the Ugandan children's faces. This was their first experience with video calling.

Next, we set off on a quest to connect with 50 scientists, explorers and conservationists. Since then, we have connected with an expedition on an active volcano in Italy, talked conservation with Céline Cousteau, taken a virtual deep sea dive on a submersible in Roatan and hung out in an Adele Penguin colony in Antarctica. I cannot think of a better way for students to learn than by being taught by leading experts from around the world and having the opportunity to ask questions.

One of our first guest speakers was marine biologist and shark advocate Jillian Morris. She lives in the Bahamas and had just formed a not-for-profit group called Sharks4Kids. We learned that thanks to the world's most dangerous predator (us), sharks are at risk of disappearing. Each year roughly 75 to 100

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million sharks are removed from the oceans. Many species' populations have fallen by over 90 per cent.

My students' perceptions of sharks were turned on their heads and they wanted to do something to raise awareness about this issue. We decided to write persuasive letters to our prime minister to ask for a ban on shark fin products in Canada. As we were writing, we learned about the Western Australian government's plan to begin culling sharks longer than three metres found near popular beaches. We decided to write an open letter to the premier of Western Australia. He wrote back, but largely ignored our questions and concerns. Undeterred, my students drafted a response, highlighting a number of issues and his clear lack of research.

Our efforts made international news and front-page in our local paper. We made a video for a conservation group called Sea Shepherd and I even did an interview for a radio station in Perth. My students learned a very important lesson—if they believe strongly enough in something, their voices will be heard.

Our activities caught the attention of a world-record holding Canadian free diver named William Winram. He founded a conservation group called the Watermen Project and used his breath holding skills to satellite-tag great white and hammerhead sharks in open water. In partnership with the Canadian Wildlife Federation, he was coming to Ontario to present in Toronto and Ottawa area schools.

He was able to add a date for us in Guelph and put on a fantastic presentation for our entire student body. What started as a classroom learning experience grew into an opportunity for the whole school.

Morris and I kept in touch as the year went on and we began to brainstorm how we could bring our learning experiences to the whole school district. We settled on an ambitious plan to bring the Sharks4Kids team to Guelph. With the help of the school board and generous sponsors in our community, our brainstorming became a reality. During the week of June 9, the Sharks4Kids Guelph Tour kicked off, reaching 20 elementary and high schools and over 5,000 students.

At the end of the school year we connected with our 50th speaker, none other than Fabien Cousteau. He was two weeks into Mission 31, living on the ocean floor

in the Aquarius Lab. We spoke with several aquanauts and had a tour of the lab. Cousteau congratulated my class on our efforts and they were thrilled when he told them that it was because of students like them that he was inspired to do the work he does. It was perfect to complete our quest with

the person who was instrumental in inspiring it in the first place. ○

Joe Grabowski teaches Grade 8 science and math in Guelph, Ont. He is an avid scuba diver and is always looking to bring science and nature into the classroom.



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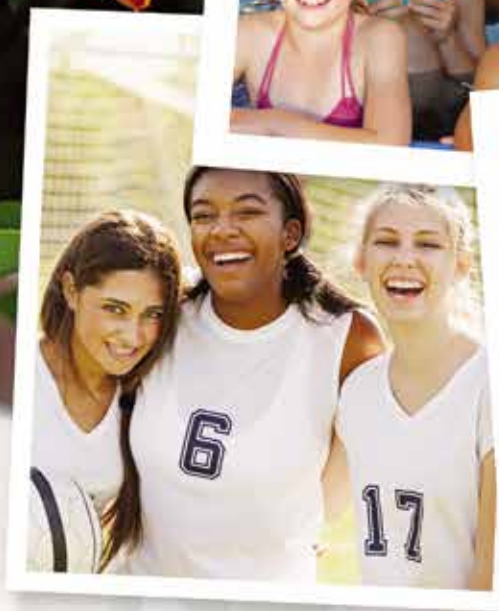

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The Restaurant Project: A Successful Integration of Arts & Technology



By Ray Suchow

The Restaurant Project is one of my favourite units. Each year, I look forward to helping my students combine technical knowledge, enthusiasm and several aspects of the arts in order to create digital menus that reflect their effort and creativity in many exciting ways.

The project begins with small groups of students deciding upon a restaurant theme, which is then brought to life through three specific design components: a cover page, a well-written set of menu items and a functional floor plan (2D or 3D). As they progress through each stage, a wide variety of both technical and artistic skills come into play. More often than not, this creates a level of engagement that takes us all to the dismissal bell without anyone noticing (which sometimes includes myself).

To see how these various aspects fuse together to create a unified whole, each design component will now be described in terms of rationale (how it contributes to the overall project), technology (what hardware and/or software is used) and



Students lay out the floor plan of their restaurants.



Students work on laying out their menus.

incorporated artistic skills (what particular aspects come into play to take their project and their learning to the next level).

The cover page serves as an effective warm-up and review of basic course skills for the overall project. Since the primary instruction focuses on creating a page-sized customer welcome that displays maximum colour with a minimum amount of text—making it similar to most real-world menu covers—students can work on combining both text and graphic elements without having to initially tax the level of detail in both. It is always enjoyable to see their restaurant first come to life as they blend the name and logo of their restaurant (created by using MS WordArt and/or Paint) with a complementary background colour scheme and relevant graphics (created by using MS Word, MS WordArt and/or Paint).

The goal of this stage is the same as with real world restaurants—to attract the interest of their customers. And, in a brief but creatively busy timeframe (approximately one class), they are usually well on their way to achieving this. By incorporating several aspects of

As they progress through each stage, a wide variety of both technical and artistic skills come into play.

graphic design, such as effective font and colour choice, appropriate graphic placement and enhancement (beveled edges, etc.), a balance between all elements and an appreciation of the overall unity of their design, the momentum they have built as a result of this initial success has them ready to begin the next stage of the project—the well-written menu items.

The creation of their restaurant's dishes is often the highlight of the project for many students. Whether it comes from trying to capture the essence of a savory pulled-pork sandwich or the nuances of properly seasoned seafood potato skins, I have found that the following guidelines strongly contribute to the project by enabling greater language

creativity and writing enjoyment—which is always allowed!

We begin by writing a sample menu item using either MSWord or Power-Point and then look to incorporate adjectives and/or adverbs to enhance the description. As a result, we take a regular cheeseburger and transform it into a mouthwatering, flame-broiled quarter pound Angus burger covered with melted

Continued on page 18

¹ Floorplanner.com is an amazing site which allows students to design highly detailed levels that can be rotated and printed from any angle.

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- *"It has been both formative and relevant to my teaching and I recommend the experience whole-heartedly."*

Continued from page 17

cheese, crisp apple-wood bacon and fresh toppings of choice.

Once they understand that they can be creative with their items, each group decides how many to create. The guidelines are two to three categories (breakfast, entrees, etc.), with five to 10 items in each. This allows a total of 10 to 30 items, which suits any group from ESL students to the future Food Network stars of the class.

At this stage, their confidence in their language arts creativity and use skills is supported by using a visual Word Bank, which I update in real time in MS Word (on my Smart Board screen) as their menu writing progresses. I start it off with the two most commonly misspelled words—Caesar (the salad, not the emperor) and whipped cream (not whip cream). After that, if they have trouble spelling a word, I help them with it and then place it on the Word Bank for all to see and use. This makes the spelling of many words they have heard before, such as mozzarella and fettuccine, more familiar.

As a result of incorporating several aspects of language arts, such as sentence components, synonyms, writing for an audience, punctuation, spelling, proof-reading and revising, the creation of their menu items opens several doors to the richness that engaged writing has to offer.

The final component of the project, the functional floor plan, provides the opportunity for students to show where all of their culinary magic is happening. Whether completed in 2D as a standard aerial view by using Paint, or in 2D or 3D by using floorplanner.com¹, the primary rule of the floor plan is to ensure that their restaurant is functional. I ask students to imagine themselves as a customer—where are they greeted, are there enough washrooms, etc.

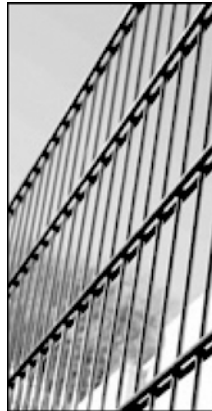
As a result of this process, upgrades to the diagram are often soon underway. Furthermore, the functionality requirement introduces design studies as an important skill; as one that helps ensure customers will not only enjoy their dining experience in a well designed restaurant, but will also want to keep coming back for more.

In summary, the Restaurant Project combines language arts through effective item descriptions and an ongoing Word Bank display, several elements of graphic

design via an eye-catching cover page and enhanced graphics effects, and design studies by creating a working floor plan using 2D or 3D programs. Add in the increased confidence levels wrought by using a variety of hardware and software tools, along with the final copies printed on a high quality colour printer, and you truly have a project that students will be happily talking about—and treasuring—for years to come. ○

Ray Suchow teaches computer studies and religion at Christ The King School in Leduc, Alta. He recently finished his master's degree in religious education, as well as a graduate certificate in Catholic school administration.

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Technology-, Art- & Inquiry-Based Learning

By Drew Jamieson

In 2012 to 2013, our school purchased its first set of iPads. A handful of teachers, myself included, decided to experiment with them as a teaching tool. We began using them in a variety of ways. We found that the iPads gave the students the ability to be creative and present information in modern ways; ways that were not possible before.

Every time we used them, we noticed a significant increase in student engagement. Right around this time, a few of us also began to fully embrace the inquiry process in science and social studies. We began to make a conscious effort to move away from teacher-directed lessons focusing on content and we began letting students investigate, solve problems and independently reach their own conclusions.

The following year, 2013 to 2014, I continued to fully integrate the iPads into the majority of my lessons. My students were using them for every subject, almost every day and their iPad IQ began to improve substantially. Among other things, they were using the iPads to collaborate in language, create in art, communicate in math, and think critically in science.

The iPads allowed me to teach in a more creative and engaging manner. A great example of this is a Grade 5 science unit on human organ systems. With the science, technology, engineering, art and math (STEAM) model in mind, my plan was to have students conduct research on an organ and how it works (science), use claymation to construct a working model of the organ (art) and then use an iPad (technology) to film the claymation.

We began with a whole class activity and identified the major systems in the human body and their basic roles. The class was then divided into groups of three or four students and each group chose which organ they were going to focus their research on. Students then jumped quickly into the inquiry process.

Following the scientific inquiry process, I asked my students to formulate specific questions that would guide their investigation. Asking the right questions is pivotal to the inquiry process and I often conference with groups during this early stage to promote a successful outcome.



A clay model of the female reproductive system.



Students using an iPad to capture their claymation.

Once the students had their guiding questions, they began conducting their research. The primary goal of their research was to gain an understanding of how their organ functioned so that they would be able to create a true working model of that organ.

My classroom is a bring-your-own-device classroom, so during inquiry projects like this, students are able to do their research right in our classroom. Each student has a device that can access the Internet and school databases. Each student in my classroom also has access to a Google account. They can communicate with group members and collaborate on research using Google Drive. This avoids the unnecessary hassle of trying to book library and computer lab times.

Once the students had answers to their guiding questions and understood how their organ worked, they set to work on creating a fully functioning model. Not all groups chose to use claymation to create their model, but for the purpose of this article, we will focus on the groups that did.

For anyone who is unfamiliar, claymation involves the use of a malleable substance, usually clay or plasticine. The clay is shaped into a desirable shape, in this case a human organ, and then a picture is taken. The clay is then moved very slightly and another picture is taken. This process gets repeated over and over again. Once the desired movement has been captured and the individual pictures are played back rapidly and in succession, the viewer sees the slight changes in each picture as motion.

Students used the knowledge they had gained through their research to create the models of their organs. In creating their models, they were required to work through the creative process in art. Sculpting a true representation of a human organ required imagination, planning, experimenting, revision and refinement.

To create the movement of their organ, students used an app by Boinx Software called iStopMotion. This was a very laborious process for most groups and some of the groups made countless changes to their model and shot hundreds of pictures in order to achieve the desired effect.

One beautiful example of the integration of science, art, and technology was done by a group who chose to do the female reproductive system. They were able to use clay to sculpt the ovaries, fallopian tubes and uterus. They then used claymation to film the release of an egg from the ovaries and demonstrate the path the egg takes through the fallopian tubes on the way to embedding in the uterine lining. Once they had their initial model, they refined and extended it and continued to use claymation to demonstrate the fertilization of an egg and the first stages of fetal growth.

The wonderful work students produced during this unit, a combination of science, art and technology, was one of the most impressive things I have seen in my 10 years of teaching. To me, it solidified the fact that the inquiry approach and the STEAM model really do belong at the forefront of 21st century education. ○

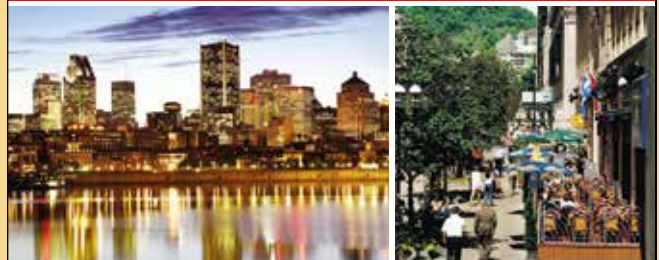
Drew Jamieson is a Grade 6 teacher in London, Ont for the Thames Valley District School Board. Follow him on Twitter @TweetMrJamieson.

See the students' video online at <http://youtu.be/DidABaAe6qM>.

The wonderful work students produced during this unit, a combination of science, art and technology, was one of the most impressive things I have seen in my 10 years of teaching.

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Quantum's GPS/AVL integrated solution offers full range of software features:

By Rebecca Peters

Quantum XXI Inc. has developed GOLDBus, a computer tablet technology for school buses and other fleets that is vastly improved over the old GPS/AVL firmware approach. The supplier worked directly with school districts to determine features that enhance student safety and driver accountability and bring savings to districts.

The tablet solution for school buses is unique in the flexibility it offers. Applications are all-inclusive in the initial software package pricing. All features are built into the software; school districts can implement them with no "add-on" cost.

Because GOLDBus is software-based, it can be used on any tablet or computer with a Microsoft-based platform. Quantum XXI recommends the sturdy Fujitsu tablet for school buses.

The Loudoun County (Va.) Public Schools transportation department tested several tablets with the GOLDBus software and found that it worked flawlessly on all of them, but that the Fujitsu tablet, built to military standards, proved to be the sturdiest for withstanding temperature changes, bumpy roads, dust, etc.

GOLDBus includes all the basic GPS/AVL features and many others that integrate seamlessly within the system, as well as with other software used in school districts, such as routing, fleet management, payroll, human resources and student information.

GPS/AVL is built into the hardware (tablet) and includes features such as real-time and historical data, including bus locations, speed, and departure and arrival times; length of time spent at locations; comparative analysis of actual versus planned times; and standard and customized reports of events.

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 - **Real-time downloading of routes:** Route changes can be sent directly to the tablet in real time, even during a route.
 - **Audio and visual directions:** Includes district directions used for routing. Any last-minute changes can be sent with routes and up-to-date audio/visual directions.
 - **Real-time video streaming:** Can be utilized with the built-in camera. The tablet can also connect to other inside and outside cameras.
 - **Customizable pre- and post-trip inspection checklists.**
 - **Student boarding/deboarding:** Includes ridership identification. Photo or icon boarding (touch picture) fits the needs for accountability of ridership for special-needs students.
 - **Medicaid reimbursement reporting:** Included in the standard
- Initially, the tablet may be more expensive to purchase than simple GPS tracking hardware. However, the many advantages, including the ruggedness of the tablet, the software-based system that accommodates other tablets and upgrades, and the fact that all software components that most companies sell separately are included in the price without needing to install additional hardware, firmware or software, make it a practical choice for a long-term investment.

For more information about Quantum XXI, visit www.quantumxxi.com.

Rebecca Peters of Education Consulting LLC is a retired superintendent of schools from Virginia. She served as superintendent of schools in the city of Alexandria [Va.] and as superintendent of schools in Mecklenburg County, Va. She has also served in many other administrative positions in education, including director of technology and director of career and technical education in Fauquier County, Va.

All Aboard!

Gaining STEAM

By Cheryl Ricco

I Think I Can, I Think I Can, I Think I Can

I like thinking of the Northeastern Catholic District School Board (NCDSB) in Ontario as the little engine who can. Like Watty Piper's little blue engine in his classic children's story *The Little Engine That Could*, the NCDSB Express chugs along the rails of education while overseeing the operation of 12 elementary schools and one secondary school. Admittedly a small school board, the NCDSB Express perseveres as it climbs the mountain of 21st century learning.

I Think I Can, I Think I Can, I Think I Can

One way elementary educators in the NCDSB stay on track with preparing students for the 21st century is through the integration of the creative process with traditional STEM subjects. In fact, it is through the creative process that teachers of science, technology and math encourage their students to be critical thinkers.

Melissa Lavoie, teacher at St. Paul Elementary School and O'Gorman Intermediate Catholic School in Timmins, Ont, for example, uses the creative process in science and math. To assist in the instruction of a structures and stability unit in her Grade 7 science class, Lavoie uses a program called Virtual Researchers on Call (VROC) to expose students to potential careers in STEM fields.

According to their website, VROC is "a set of educational programs that connect knowledge partners—college and university professors and professionals in the fields of Science, Technology, Engineering and Math—with Canadian students in elementary and secondary schools for real-time, interactive learning opportunities."



ABOVE: Students in an industrial arts class.

BELOW: Students test the strength of their bridge.



After teaching specific concepts about structures and stability, Lavoie introduced Prof. Francesco Tangorra from Algonquin College in Ottawa to her students via software provided by the VROC. By “beaming” into Lavoie’s classroom, Tangorra introduced himself, the work he does at Algonquin College and how the concepts they were learning about would help them in the field of civil engineering.

He also outlined the unit activity which would have students competing against each other in a Popsicle stick and white glue bridge building challenge. The three criteria for the design project were economy, efficiency and elegance. Students not only had to use math and science knowledge to construct their bridge, they had to be creative in its design to produce a beautiful, yet functional, design.

“The connection that students are coming to realize is that... art is integrated within construction. It is an integral part of the very function of a bridge. The colours and materials used also enhance the aesthetics of the bridge, as bridges often make a statement in the space they are in,” says Lavoie.

The students absolutely loved the interaction. They were engaged and attentive.

Lavoie and Tangorra then gave the students a few days in small groups to construct their bridges with the understanding that Tangorra would assist in judging the projects and also provide feedback to the students with regards to why and how the bridges strained or collapsed. The students absolutely loved the interaction. They were engaged and attentive.

In essence, Lavoie’s use of the VROC program helped students who generally see art as a separate subject come to see it as an integral component to projects in STEM fields. As a result, all students could value the learning taking place.

I Think I Can, I Think I Can, I Think I Can

Robert Breen, teacher at Sacred Heart Catholic School (SHCS) in Kirkland Lake, teaches the creative process to students while incorporating math and technology in his Grades 7 and 8 construction technology and industrial arts classes.

As a mandatory component of the intermediate level, and the only such program for Grades 7 and 8 students in the community, construction technology classes provide SHCS students with the opportunity to apply foundational math skills, such as the addition and subtraction of fractions and the conversion of the metric system to

Continued on page 26



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Continued from page 25

the imperial system, to help with the construction of their projects. Students also use knowledge of structures learned in science to ensure that their projects are stable and safe.

Breen's industrial arts classes give students the opportunity to dabble in a trade and provide them with a possible area of interest as they move toward the secondary panel and begin to choose courses that reflect their future career interests. Breen noted that he often finds that students who may even struggle with art enjoy the opportunity they are given to learn wood-working skills and create amazing projects.

I Think I Can, I Think I Can, I Think I Can

Brian Beaudry, custodian at St. Patrick School in Cobalt, Ont is a local poet extraordinaire who works with students who are interested in poetry writing. For over a decade Beaudry has encouraged children at St. Patrick School to write creatively and has published an annual anthology, *Passion for Poetry*, as the final product of student work.

Inspired by one of Beaudry's poems, Grade 7 student Linzie Leliever chose to illustrate a poem that was then turned into a video using the song *Invisible* by Livy Jeanne, who hosts anti-bullying campaigns in schools across Canada. Jeanne thought that the presentation was amazing and posted it on all her social media pages and anti-bullying websites. The video can be found at www.ncdsb.on.ca/video.php.

I Thought I Could, I Thought I Could, I Thought I Could

As the NCDSB Express leads its passengers into the 21st century, educators within its furnace fuel the hearts, minds and faith of their students to provide our youth with the confidence they need to be successful. Streamlined for success, its passengers acquire the skills and abilities to problem-solve, think critically, communicate their ideas, understand media, work with various technologies and collaborate in teams as they travel toward graduation and become active members of the local and global communities. ○

Cheryl Ricco is a principal in the Northeastern Catholic District School Board. As a writer and educator, Ricco believes in the creative process and allowing students the opportunity to discover and learn through collaboration and creativity.

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Philosophy Café Increases Meta-Cognitive Skills

By Andrew Siebert

Imagine a group of 20 students on the staffroom couches at 7 p.m., mugs in hand, discussing the greatest ideas from the past 2,000 years. They are laughing, thinking silently for long periods of time and carefully responding to differing points of view until 10 p.m. “When are we doing this again?” they ask.

Welcome to Philosophy Café at Grant Park High School in Winnipeg, Man., a monthly gathering meant to enrich student learning by having an informal Socratic discussion with a local philosopher.

The program was established seven years ago by the head of the science department, Mike Patenaude. He saw it as a way to pique curiosity about philosophy, but more importantly to get kids thinking logically and give them a chance to debate ideas not discussed in class.

Students put themselves through long and vigorous discussions tackling topics such as free will versus determinism, if truth exists and the difference between humans and other animals.

The key to its success is its informal and Socratic nature. Students learn the process of philosophic dialogue, not just the ideas of past philosophers. Instead of a lecture, the leader formulates a problem and students respond with their opinions, formulate arguments and produce counter-examples.

The idea is spreading to other schools as philosophers are willing to donate their time to help students become articulate and consistent in their beliefs. Long-time discussion leaders include Dr. Arthur Schafer, University of Manitoba director of the Centre for Applied Ethics and Dr. Brian Keenan, veteran department head at the University of Winnipeg.

Philosophy Café continues the tradition of Philosophy For Children, which was founded in 1970 by Matthew Lipman. He saw Socratic dialogue as a way for students as young as



Students at Grant Park's Philosophy Café discuss justice and natural law with Mike Patenaude (middle left) and philosopher Dr. Brian Keenan (middle right).

six to increase meta-cognitive skills, overall achievement and democratic engagement. Based in logic, dialogue requires clarifying problems, detecting inconsistencies, looking for evidence, building hypotheses and using specific criteria to solve problems.

Various studies have confirmed Lipman's belief that participating in Socratic dialogue increases achievement. One study found increased scores for verbal and non-verbal aspects of the Cognitive Abilities Test after 16 weeks of philosophic dialogue. This benefit was maintained for at least two years in the absence of further Socratic dialogue (Topping, Trickey: 2007).

In a recent meta-analysis about the effects of inquiry in science classes, researchers from the University of Colorado found that students performed better when they had to examine how scientific knowledge comes about (Furtak, Seidel, Iverson, Briggs: 2012). This set of cognitive tasks, called the epistemic domain, has roughly the same goal as philosophy: Students evaluate and interpret evidence to justify their own theories.

Three other cognitive domains were identified in the meta-analysis: Conceptual knowledge, written and verbal expression, and

designing and conducting experiments. The epistemic domain, which requires the greatest meta-cognitive skills, had the largest effect.

This very large impact of the epistemic domain suggests that students need a chance to look at the bigger picture, to come up with their own theories about how the world works and to justify their theories with logical arguments.

Philosophy Café is uniquely suited to developing those skills. Socratic dialogue not only increases higher-order thinking skills, but is able to address the questions of truth and meaning which are not built in to scientific method. Young people are particularly motivated by the need to make sense of their experience and form a coherent, well-reasoned worldview. Philosophy Café is a time when students can realize that when done intentionally and in a small group of friends, this task is fun and rewarding in itself. ○

Andrew Siebert is on contract at Grant Park High School in Winnipeg, Man., where he teaches AP psychology, English and debate. He has organized Philosophy Café for the last two years and continues to be inspired by this experience.

Teaching our Students About Digital Citizenship

By Jeffrey Jordan and Simon Belanger

In 2010, the staff and administration at Heritage Regional High School (HRHS) encountered a new 21st century issue. As the popularity of social media grew, so did the number of behaviour and incident reports. The real problem, however, was that a disproportionate amount of these incidences started outside of school hours, via social networks.

Tempers would rise during online chats or embarrassing content would be posted, making school the place to meet and resolve the situation. It quickly became apparent that students were tech-savvy, but mainly for social purposes.

Concepts such as digital privacy and appropriate online communication carried very little meaning. Even though the current generation of learners grew up with digital gadgets in the palms of their hands, they do not fully comprehend all the potential risks present in the online world.

This truth is what sparked the creation of our school's digital citizenship program. The program focuses on educating students about being smart, safe and responsible with technology. As adults, teachers and parents alike are responsible for raising children to become well-prepared citizens.

Now that technology has infiltrated almost every facet of our daily lives, we are equally responsible for preparing them in the digital world as well. Our mission at HRHS was to raise awareness about online safety in an attempt to lower the amount of cyber issues present in the school. Now, four years later, we have created a small digital citizenship curriculum that reaches out to every grade level in the building.

In Quebec, high school covers Grades 7 to 11. Therefore, we assigned one digital topic to each of the five years. Entering in Grade 7, students explore the idea of being both a citizen and digital citizen. As they progress to Grade 8, they are introduced to



the reality of digital footprints and online reputations. Since Grade 9 usually presents the highest number of behaviour reports in our school, this is when we focus on cyber-bullying and harassment. In Grade 10, we deliver information about cyber safety and protecting online information. Then, in their senior year, students learn about copyright and plagiarism in the digital world.

For each level and topic, we created three interactive lessons that are easy for all teachers to present. Using ideas and information from the educational technology organization Common Sense Media,

each lesson includes interesting facts, video links, discussion topics and class activities. To ensure clarity and a smooth delivery, teachers receive a digital copy of the lesson, a point form plan and activity documents.

Since this project sought assistance from our colleagues, we asked different subject teachers, including English, French and ethics, to deliver the lessons at each grade level. This way, we were not asking only one group of teachers to take part. Also, since we did not want to ask for too much class time, the lessons were spread out over the year.

Lastly, to network the program, we held a parent information evening and created a Twitter account they can follow. As the concept of digital safety grows, parents are beginning to realize that the online world contains real life risks and dangers. They too need to be made aware of digital citizenship and how it relates to their family. When a parent buys a new device for their child, they need to understand that they are giving them a powerful tool; one that gives them 24-7 access to the online world, as well as all the people and information in it.

If, as parents and educators, we teach social skills and values to our children, then digital citizenship is also a necessity. Interactions now happen all the time via social networks. They are no longer limited to face-to-face meetings and phone calls. Digital citizenship is now crucial in a child's educational development. It is up to us, the schools, to do what we do best—educate our future generations.

Jeffrey Jordan is working on his M.Ed. in educational leadership. He is an English teacher and Junior English coordinator at HRHS.

Simon Belanger is working on his M.Ed. in educational leadership. He is a special education teacher and coordinator of a work-study program, at HRHS.

For more information, follow @HRHS-DigCit on Twitter.



SPECIAL FOCUS



Improving Student Attendance

By Kate Powell

Last year, I became principal of Deninu School, an aboriginal K to 12 school in Fort Resolution, N.W.T. My biggest challenge was dealing with low student attendance and a high drop-out rate. One solution was to offer more high-interest courses.

We asked students what they were interested in taking and asked again every 12 weeks for course suggestions. The answers included childcare, hairdressing and welding. It was clear students wanted to learn hands-on and practical job-related skills, some of which could lead to sources of income while still in school.

We only have two full-time teachers for students in Grades 10 to 12. Those teachers have to be flexible in offering a wide range of courses, but two teachers can only offer so much. So, we began to create connections with local experts.

We placed the high-interest courses in the last hour of the day so courses could run past the end of the period without affecting core courses. Many of the sessions took longer than the hour assigned and students were keen to stay beyond the usual dismissal time. Students in Grades 8 and 9 were included in this session, adding their homeroom teacher to the available elective offerings and boosting class numbers.

During a 12-week period, there would be two days of options. For example, on one day, students could choose welding, cake decorating, 3D art and pottery, traditional crafts or computer programming. On the second day, welding, and 3D art and pottery were again offered, as well as hairdressing, childcare and LEGO Serious Play. We chose two days of scheduling to keep interest high. Passion and enthusiasm remain top priority for both student and instructor involvement.

Many of the courses earn students Career and Technology Studies credit. Students in Grades 8 and 9 were also able to earn and bank credits, and many have



A photography student. Photo by Tamara Lafferty and Kelsey Boucher.

	2012-13	2013-14
September	25 per cent	40 per cent
October	19 per cent	36 per cent
November	20 per cent	45 per cent
December	16 per cent	40 per cent
January	15 per cent	52 per cent

Table 1: The increase in students with at least a 90 per cent attendance rate at Deninu School.

These junior high students are understanding and talking about credits. They feel good about already working towards graduation.

In addition to core school funding, supplemental funding came from third parties, including the Department of Municipal and Community Affairs' Youth Corps Program. Allowing students to have choice and a voice in program offerings allowed us to access this funding to pay for additional equipment, materials and to offer honorariums to local instructors. In terms of leadership, it is expected that some of the students will become instructors of electives, thereby building capacity and sustainability at the community level.

In terms of measuring success, student attendance was tracked from 2012 to 2014. Electives were the most significant change in

our school since last year. Note in Table 1 the significant increase of students attending school at least 90 per cent of the days each month.

The government asked people across the territory about priorities for improvement in our schools. The number one priority was to strengthen school-community relationships. Accordingly, using local expertise has addressed the desire to bring community members into schools as mentors and to take students into the community to learn relevant skills that will help them transition from school to their adult lives. ○

Kate Powell is principal of Deninu School in Fort Resolution, N.W.T. Originally from England, she has worked at Deninu School for five years. She is winner of the Premier's Award for Excellence and the Ministerial Literacy Award.

Making Learning Visible

By Lisa Michaluk

Our journey at Sigurbjorg Stefansson Early School (SESS) began as a provocation inviting us to truly think about our image of a child. Conversations, inquiry questions, wonders and action-based research evolved through this provocation. At SESS, we believe that children are capable, intelligent, curious and creative beings. Our children are given endless opportunities to engage in authentic, meaningful learning through science, technology, engineering, arts and mathematics (STEAM) with the infusion of literacy at every opportunity.

The environment as the third teacher is essential to our beliefs. Each room in our school has spaces that invite building, designing and creating with authentic art materials, exploring nature, creating music, researching our world and environment, and creating real-life opportunities for inquiry, critical thinking and reflections. Provocations weave seamlessly into the classroom environments.

A provocation is a purposefully displayed group of items that invites observers to think, question, explore and discover. These provocations engage children in a way that naturally uncovers the curriculum. A provocation could be a basket of rocks, gems, die, paper and pencils or a basket with various rocks and minerals, magnifying glasses, microscopes, research books, sketchbooks and maps. Setting out vinegar, water, baking soda, water colours, soap, pipettes and containers could ignite an exciting eruption experiment or it may result in colour mixing, exploring textures or an animated scientist story.

Guidelines, expectations and parameters are not clearly set out for the children, presenting them with the opportunity to validate their curiosities and wonders about the world around them. Provocations have the



A child documents his creation and the story it tells.

ability to create a firestorm of inquiry or they may sit untouched and silent until a new wonder sparks interest in them. One has to be willing to wait and let the children guide the discovery and inquiry.

This gives the children a sense of pride and responsibility for their learning. They truly become co-constructors of knowledge. As physiologist Albert Szent-Györgi says, “Discovery consists of looking at the same thing as everyone else and thinking something different.”

Infusing meaningful technology has been a natural step in our journey. The children in our school view technology as a tool to enhance, capture, celebrate and share their learning. Each class has an Instagram account to post photos and videos. An Instagram video of a math game or problem often sparks questions and creates invitations to collaborate and learn together. Photos of bubbling experiments or expressive art pieces, videos of unique musical sounds or photos of structures and buildings inspire other children to wonder and imagine. The possibilities become endless and authentic learning opportunities evolve.

Documentation is an integral piece of our story. Photos, videos, sketches, lists, quotes and designs surround our children on our walls, in books and on our school blog, www.lifeatsses.blogspot.ca.

Each of our students has a documentation book filled with photos, nature artifacts, sketches, problem solving, stories, building designs, experiment notes and celebrations. Recently, when a child new to the classroom was being introduced to his documentation book, the teacher’s explanation of the book was quickly replaced with a child’s. “It’s the most special book you will ever work in.” Documentation makes learning visible and validates children’s thoughts and ideas. Our documentation books tell a child’s story. They are as unique and individual as the children who create them.

It is our hope and belief that we are creating an environment at SESS that engages children in authentic learning experiences that seamlessly infuse STEAM. We are thrilled to be part of New Pedagogies for Deeper Learning, a global inquiry project focused on deepening the learning of our children. We continue to share and celebrate the journey with our children. “The wider the range of possibilities we offer children, the more intense will be their motivations and the richer their experiences,” says philosopher Loris Malaguzzi. ○

Lisa Michaluk teaches a multi-age class of Grades 1 and 2 students at Sigurbjorg Stefansson School in Gimli, Man. (Evergreen School Division). Visit www.lifeatsses.blogspot.ca to share in our journey.



SPECIAL FOCUS



The M&T Graphics Factory Produces More Than Graphics

By Chuck Temple and Larry Lippert

In February 2014, senior high school students from the Wellington Catholic District School Board walked into M&T Printing in Guelph, Ont. for what has become a ground-breaking educational initiative.

In early 2013, Dean Froome, president of M&T Printing Group, and Chuck Temple, teacher of the communications graphic design program at Bishop Macdonell Catholic High School, were discussing co-op placements for the specialist high skills major (SHSM) graphic design students (see sidebar). They initially discussed finding funding to purchase laptops to minimize the technology burden on co-op providers.

Then, Froome approached Temple with an alternative plan. What if M&T provided an on-site classroom in its Guelph location and supplied all the required technology? Temple could not believe his ears. The timing was perfect. Froome was in the process of opening a new facility and offered to renovate the location to accommodate the students. “You couldn’t have a better opportunity or a better corporate partner,” says Temple. M&T Graphics Factory was born.

In February, students entered their new workplace. The course began with a two week pre-placement component. Students had to design the new logo for the M&T site. Froome and plant manager Ryan Solomon then interviewed the students and critiqued their logo designs. The chosen logo now appears on the studio.

The implementation speed and results of the program have been impressive. The renovation of two offices into a design studio provided a comfortable space for students to begin their immersion into the world of client-centered graphic design. Within days, students were fully integrated into the M&T project docket management system and turning out work for real customers. While the transition from school to work was relatively seamless, there were some initial challenges. For example, the space was a bit tight. So, Froome renovated again and added a presentation studio.



The official ribbon cutting at the opening of the M&T Graphics Factory.



Tommy Beke and Jenna De Rita, students of the M&T Graphics Factory, won medals in the Ontario Skills – Regional Graphics.

By the end of the semester, the students had participated in a real business environment—experiencing the demands and systems associated with it—while developing a portfolio that primes them for post-secondary programs.

It is hard not to be impressed. Students from this program have completed work for numerous well-known companies, non-profit organizations and government programs.

Within days of the paint drying, the Ontario Skills – Regional Graphics competition was held in the new studio. Students competed in the graphic production and graphic presentation competitions where they were required to complete an industry standard design piece within two hours and defend an existing design in front of judges.

Medal winners from this competition then competed at the Ontario level. Two students from this program won gold and bronze in the design categories. A culminating confirmation

of the skill level of these students was demonstrated at the national level where Tommy Beke won bronze, identifying him as one of the top three students in Canada.

Temple suggests that the M&T alignment is significant in preparing students for post-secondary education. Many schools require students to submit portfolios when applying. “The students’ portfolios were good before M&T got involved, now they will be exceptional,” says Temple.

The M&T initiative is new and there has been much excitement generated. Other Ontario locations are expressing interest in developing similar programs with M&T. ○

Larry Lippert is a marketer extraordinaire. He is the sales mentor for the M&T Graphics Factory co-op and is instrumental in the program’s success.

Chuck Temple is a teacher in the Wellington Catholic District School Board, senior art director for a communications firm and runs a freelance graphic design and illustration business.

Specialist High Skills Major (SHSM)

An SHSM is a grouping of credits in a subject area and requires students to complete a co-op placement. Students achieving an SHSM designation earn a red seal on their high school diploma indicating commitment to a subject area.

The Leadership Academy

By Michelle Lamarche, Sean Adamson, Teresa Dodwell, Kevin Douglas and Keith Puffer

The EOSDN Leadership Academy was established in 2012 to provide a forum for collaboration around issues of applied leadership, knowledge, skills, research and policy. The academy focuses on leadership for implementation. It looks at being effective in, working on and working beyond one's school or portfolio in collaboration with others.

The Leadership Academy was developed by the Eastern Ontario Staff Development Network (EOSDN). The EOSDN is a consortium of Eastern Ontario District School Boards and the Faculty of Education at Queen's University. It facilitates professional learning and collegial sharing for the purpose of improving student achievement. Its members believe that continuous professional learning is necessary to the success of students. And so, it provides professional learning opportunities to foster the concept that a learning network encourages enduring professional discourse and peer support.

The desired outcome of the program is that participants gain confidence in using their skills and knowledge intentionally to build relations and culture, to implement plans for improvement and change, to create conditions for effective instruction and productivity and to manage responsibilities.

A cohort of 25 principals, vice-principals and managers were selected by their district school boards. Over a two-year period, the participants engaged in four facilitated face-to-face sessions interspersed with interactive online small group sessions and individual facilitator supported conversations. The sessions focused on the Personal Leadership Resources under the Ontario Leadership Framework to provide the context and background for participants to deepen their understanding of their own personal core values and beliefs, strengths and areas for growth.

The Algonquin and Lakeshore Catholic District School Board supported four participants for the first cohort of the Leadership Academy. The board sought participants



who represented both school-based leadership and central leadership roles. Participants were required to have approximately five years of experience in a management role. The participants selected were a principal, a vice-principal, a business services supervisor and a labour relations specialist.

One participant said that participating in the Leadership Academy was beneficial in providing the tools and resources to enhance knowledge and leadership skill sets. The dynamic, cross-functional group of participants created an excellent forum for collaboration, shared experiences, and peer support and mentoring. She really enjoyed the workshops and guest speakers who shared their experiences during their leadership journey.

Another participant found himself referring to the leadership framework that was introduced in the Leadership Academy in conducting tasks as a leader in business services for the board. The cognitive, social, cultural and psychological resources are effective in analyzing a problem, developing a course of action and working with others to implement a solution.

Participants reported that the sharing and collaboration between business-support staff and instructional staff was most valuable. The opportunity to understand the diverse leadership roles that exist in district school boards enhanced the learning for all

participants as they reflected on their own leadership.

The next steps for the Algonquin and Lakeshore Catholic District School Board are to find opportunities for the participants to share their learning across the system. A second cohort of the academy commenced in October 2014. ○

Michelle Lamarche is a facilitator in the Leadership Academy and the manager of human resources with the board. She has over 20 years of experience in human resources and labour relations.

Sean Adamson has over 10 years of experience in human resources with various employers in eastern Ontario. He has been the labour relations specialist with the board since 2010.

Teresa Dodwell has enjoyed teaching Grades 1 to 10 at the school and board level. She is currently the principal of a K to 8 school.

Kevin Douglas has been a school administrator since 2010. He has 12 years of teaching experience in the primary, junior and intermediate divisions.

Keith Puffer is an accounting professional with seven years of experience at the board. He is currently the supervisor of payroll services. Previous to that, he supported the finance department in the capacity of capital and financial reporting supervisor.

SPECIAL FOCUS



Kingston Community Conversations About ...

By Dianne LaFortune

Parents, students and staff are on a journey of learning and growing together to support students of Algonquin Lakeshore Catholic District School Board (ALCDSB) in Kingston, Ont. During the 2012-13 school year, focus groups were held to discuss how parents and teachers could work together to meet the needs of students. The schools involved hosted workshops and also held an evening event featuring guest speaker Annie Kidder from People for Education. This first year was a year of learning for all those involved. With lessons learned, an application was made to the Ministry of Education for a second regional Parent Reach Out (PRO) Grant.

In fall 2013, teachers involved in the first phase of the project were invited to meet regularly with ALCDSB school councils in the Kingston area. Experiences from the first year of the project, as well as the findings of the focus groups, were shared. Through roundtable discussions, parents and board staff worked together to develop a plan for the way forward for the second year. School councils spoke to the concerns, needs and interests of the families in the areas of resilience, literacy, numeracy and the use of technology in education. Board staff and parents worked together to host “Kingston Community Conversation About Creating Confident Kids.” It was held in April 2014.

The ALCDSB community of parents, teachers and students worked with Kingston community members to host an evening for children, parents and staff. One key contributor, parent Rhonda Evans, designed and distributed the poster to local businesses and organizations to promote the evening. Schools, including Queen’s University, promoted the event throughout their communities. Fly FM

radio station interviewed Dustin Garrett, a teacher who devoted much time to working on the project. The evening could not have been a success without the contribution of countless parents and board staff.

That evening, families arrived at Holy Cross Catholic Secondary School to enjoy pizza, vegetables with dip, juice, coffee and tea. Deacon Blaine Barclay officially opened the evening through prayer and by welcoming everyone. Students with babysitting certificates provided childcare for young children. Older children chose to work with Queen’s University theatre troupe BareFoot Players or Claire’s Closet, a local organization that works to empower girls through art and fashion. With children cared for and engaged in activities, parents and staff attended a panel discussion.

Prior to the panel discussion, psychologist from Queen’s University, Dr. Dean Tripp, delivered a keynote address describing the development and role of resilience in children. Each panelist brought their own expertise and knowledge to the discussion. Aaron Bailey advocates for students like him who have learning disabilities and ADHD. Sherry Campbell is a registered psychotherapist and counsellor. Barclay is a retired teacher, as well as a Deacon. And Greg Harbec is a constable with the Kingston Police Force. Maegen Kulchar, from CKWS television station, acted as moderator for the evening.

Quotes were used to stimulate discussion from various perspectives, such as the following from Helen Keller, “Life is either a daring adventure or nothing. Security does not exist in nature, nor do the children of men as a whole experience it. Avoiding danger is no safer in the long run than exposure.” Audience members, parents and staff, fully participated in the discussion.

At 8 p.m., children, parents and staff came together for the final presentations of the evening. While adults had learned about resiliency, children were also busy



Students separated from the adults for their own lessons in resiliency.



Speakers facilitated discussions among the adult attendees.

learning about the same subject in their workshops. The evening ended with great applause when the children presented their learning to parents and staff.

Kingston Community Conversations About... events are made possible through regional PRO Grants from the Ministry of Education and through the work of community members, businesses, organizations and, most importantly, parents. There are more thought provoking events planned for the 2014-2015 school year. ○

Dianne LaFortune, MEd, is a classroom teacher. An active member of the ALCDSB community, LaFortune is involved in several projects and presents her work at conferences.



A Loose-Tight Model for Regional Professional Learning in Mathematics

By Tammy Billen and Danielle LaPointe



District math leaders in the EOSDN regional math project; June 2014.

During the 2013-2014 year, the Eastern Ontario Staff Development Network (EOSDN) co-ordinated a regional K to 12 mathematics project called *Closing The Gap in Mathematics*. Educators from nine district school boards networked across the region and within their districts to build fluency in proportional reasoning and representing mathematical thinking.

System math leaders from each district met monthly to learn more about strategic implementation and monitoring with support from experts in math pedagogy, Queen's University researchers, Ministry of Education Student Achievement Officers and a provincial assessment outreach officer.

The professional learning model used a "loose-tight" structure to impact math teaching and learning. All project participants shared the focus on learning more about the big idea of proportional reasoning and the processes for representing mathematical thinking.

This tight focus allowed educators in the project to come together in professional dialogue using a common language to reflect on progress toward project goals. The loose nature of the project resulted from local inquiry teams selecting their own question within the overarching goals of the regional project which aligned with school board goals and initiatives.

This allowed all educators involved to build connections around common goals while engaging in inquiries relevant to their contexts.

In spring 2014, data was collected from project participants to determine the impact of the model. Survey, interview and observational data demonstrated shifts in educators' learning and practices around math pedagogy and data literacy. Overall, findings across stakeholder groups highlighted the following five factors that appear to matter most in moving teaching practices forward.

1. Readiness

Recognizing and addressing educators' mindsets and previous learning experiences supports their engagement in collaborative professional learning. Facilitators were responsive to differences when promoting knowledge acquisition and application of new learning in practice. "We need to be aware of the stages people go through as they change their practice and provide appropriate supports at the beginning, middle and end," says the project lead.

2. Ownership

Educators engaged in collaborative professional learning by identifying their own area of inquiry so the learning is meaningful and relevant to their role, context and needs. "The fluidity within the project goals allowed participants to engage in meaningful inquiry," says the project lead.

3. Alignment

Districts aligned and embedded the regional project with other mathematics initiatives. Teacher survey data indicated that aligning professional learning goals provided a common focus for inquiry and dialogue that supported continuity, depth and spread of learning. "When we have the same focus, we can support each other," says a teacher participant.

4. Relationships

Building trusting and supportive relationships among stakeholders promotes a culture in which educators can take risks in professional learning and practice. All stakeholders reported that trusting relationships were critical to collaboration and changes in practice. "I have learned to be more receptive to the people I am working with; students, teachers, colleagues, principals. I have learned that allowing the learning to flow naturally, while steering it slightly, produces better results all around," says a system math leader.

5. Intentionality

Devoting time and personal resources to build fluency, support practice, monitor learning and develop relationships contributes to meeting professional learning goals. "Educators need sustained, focused support to help them transfer professional learning into professional practice. All of this takes time and intentionality," says a research partner.

With support from Ontario's Ministry of Education, this project continues. The focus in year two is on cultivating depth and spread of professional learning, assessing and monitoring learning, contributing to the learning of individuals and the profession, and exploring questions around instructional leadership. ○

Tammy Billen is co-ordinator of EOSDN's Closing The Gaps in Mathematics Project and a Learning Partner with the Hastings and Prince Edward District School Board.

Danielle LaPointe is a PhD candidate at the Queen's University Faculty of Education where her research focus is data-driven educator professional learning.



SPECIAL FOCUS



Putting Innovation to Work

By Julie Maltby

The evolution of emphasis technology (ET) schools began in 2010 with a review of vocational education and a subsequent goal to provide a secondary school in each region of the Thames Valley District School Board (TVDSB) with a full complement of technology programs.

All TVDSB high schools offer technology programs. Introductory technology schools offer integrated tech studies. Composite high schools offer traditional programs, like construction. And the ET schools provide all technologies, including specialized programs such as communications technology, green industries and health care. These schools are a TVDSB innovation.

Since 2013, six ET schools have served students in the TVDSB district with a focus on accessibility and student achievement. Each student has a designated school for ET programming. Transportation is provided for those who live further than 3.7 kilometres from the school.

Access to the programs is also encouraged with wide open criteria, says superintendent Sheila Powell. “Students identify their area of interest and the schools plan accordingly.” To date, the newer, more unique programs—like hospitality and tourism—are having the greatest appeal of the nine program areas offered.

Superintendent Don Macpherson says TVDSB values the ET program as part of a comprehensive educational experience. “It’s not just for students who struggle with the academic program. Learning about trades and technology enriches the learning experience for all students,” Macpherson says.

Technology students who share their skills with community organizations, are successful in Skills Canada competitions, earn valuable apprenticeships and have an advantage when applying for post-secondary programs and jobs. Paul Panayi, principal of Clarke Road Secondary School in London, says his students are embracing the ET courses and enrollment increases each year.

“The new programs, along with our previously existing programs, provide our



Green Industries programs explore agribusiness, horticulture management, science and landscaping architecture, and more.



Students learn about food preparation, presentation, event planning and marketing, customer relations, and more.

students with opportunities not otherwise available to them in a regular high school. Students are engaged with relevant, real-life experiences, allowing them opportunities to explore various career paths.”

Most Clarke Road teachers also received the new program with enthusiasm. Panayi admits that some feared losing students to the programs and others were concerned about the school’s shift to a less academic environment.

“Such concerns have been allayed now that the programs are in place, as it is evident that we are not losing students and we now have something for everyone,” says Panayi, who also reports reduced behavioural issues and an increased sense of pride and belonging.

At Strathroy District Collegiate Institute, where ET programs have been available for five years, principal Murray Macdonald has seen a similar impact on his school’s culture.

“As educators, we often talk about authentic learning experiences. The students are more motivated toward all of their classes, because they see how the various pieces fit together,” says Macdonald.

This cross-curricular learning helps students achieve success in all courses. All teachers in ET programs are licenced in their trade and some teach academic courses, like math and science, as well as the technologies.

Jack Verrips is a horticulture teacher at College Avenue Secondary School (CASS), an ET school in Woodstock. He says, “CASS has a high technical focus, but it also has a high academic focus as well. It’s all intertwined.” A full interview with Verrips can be seen in a video titled “Futures in Technology,” which is part of TVDSB’s virtual tour at <http://tour.tvdsb.ca>.

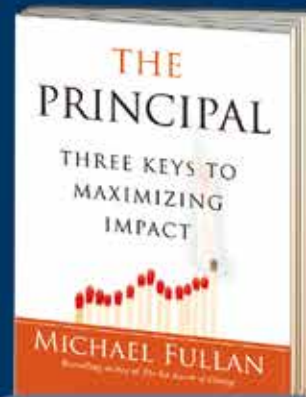
Powell says ET schools grew out of TVDSB’s mission to build each student’s tomorrow, every day. “Students will learn something about themselves as they learn new skills that they’ll be able to apply in future studies or life in general.”

To learn more, go to www.tvdsb.ca/tech. ○

Julie Maltby, B.A., is TVDSB’s public affairs officer. She is an internationally accredited business communicator who has worked in the education sector for 15 years.



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DON'T MISS THESE UPCOMING EVENTS!

Dec. 6-7, 2014

Google Summit

The Lester B. Pearson School Board in Dorval, Que is hosting the second annual Google Summit. This conference is open to all educators interested in learning more about Google Applications for Education. The Summit will take place at Lakeside Academy in Lachine, Que. For more registration information visit qc.gafesummit.com.

Feb. 9-10, 2015

Leadership Committee for English Education in Quebec Conference 2015

The Leadership Committee for English Education in Quebec (LCEEQ) will be hosting its annual conference in Laval, Que. The provincial association brings together almost 900 teachers, professionals and administrators from English school boards, private schools, colleges and universities to discuss pedagogical issues important to the English-speaking communities of Quebec. It is an opportunity for educators to network and reflect on issues of common concern. This year's theme is visible learning and will feature John Hattie and a team of dynamic presenters.

April 30-May 2, 2015

2015 National Conference of Physical and Health Education Canada

The National Conference of Physical and Health Education Canada, taking place in Banff, Alta, provides an opportunity for delegates to network with colleagues and increase their knowledge and skills to foster healthy, active living for children and youth. Delegates include educators, public health administrators, recreation leaders, physical education specialists and generalists. For more information, visit www.phcanada.ca/events/conference2015.

Upcoming We Day Events

Montreal – March 24-25

Ottawa – April 1

NWTSA Welcomes New Member

The Northwest Territories Superintendents Association (NWTSA) is pleased to welcome Ms. Yvonne Careen, Directeur General/Superintendent, for the Commission Scolaire Francophone des Territoires du Nord-Ouest. She replaces retired superintendent Marie LeBlanc-Warick.

2014 CAP Award Winners

The 2014 CAP Award for Excellence in Teaching High School/CEGEP Physics (British Columbia and Yukon) was awarded to Susan Hunter-Jivung of Lord Tweedsmuir Secondary School. Dion Skitsko from Mother Margaret Marry High School received the award for the prairies and Northwest Territories region. In Ontario, the award was given to Diana Hall of Do Science Tanzania. Stéphan Gaumont-Guay of Cégep Limoilou won for the Nunavut and Québec regions.

UCDSB Director of Education Retires

The Upper Canada District School Board (UCDSB) announced recently that David K. Thomas is retiring from his post as director of education. "The board extends its gratitude to Thomas for his years of service to the UCDSB public school system," says board chair Greg Pietersma.

The board also announced that Charlotte Patterson has been appointed interim director of education.

She is a well-respected and highly experienced educator and administrator. Patterson has deep roots in the UCDSB school system as former superintendent of human resources, superintendent of schools, principal and teacher in a career in education that has spanned over 35 years.

The UCDSB is geographically one of Ontario's largest public school boards representing communities covering 12,000 square kilometers. With an enrolment of 27,000 students and 4,000 employees in 86 schools, the UCDSB includes the counties of Lanark, Leeds, Grenville, Stormont, Dundas, Glengarry, Prescott and Russell. Learn more about UCDSB at www.ucdsb.on.ca.

2015 Excellence in Teaching Awards

The 2015 Excellence in Teaching Awards provide Albertans with an opportunity to recognize and celebrate the many contributions teachers and principals make to student learning—bringing the vision of inspiring education to life.

The Excellence in Teaching Awards was initiated in 1989 by the Minister of Education to:

- Recognize outstanding Alberta teachers;
- Honour creative, innovative and effective teaching;
- Focus public attention on the teaching profession; and
- Involve Albertans in celebrating teaching excellence.

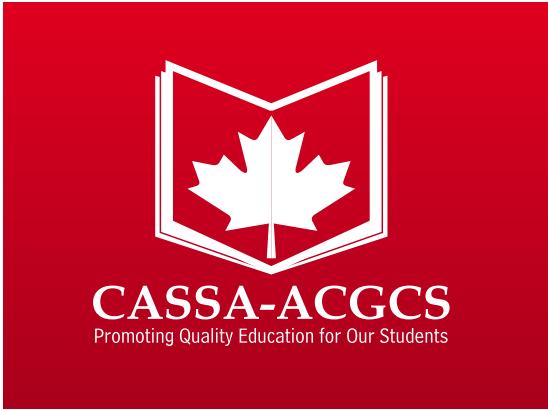
All schools will receive a nomination package for the Excellence in Teaching Awards. To be eligible for nomination, teachers must hold an Alberta permanent professional teaching certificate at the time of nomination, work directly with students, teach courses of study and education programs authorized by the School Act and must be actively teaching in the current school year.

All nomination coordinators should forward the superintendent's form to Tina Monaco at Catholic Education Services (care of Linda Deans) by January 9, 2015. For more information go to www.education.alberta.ca/teachers/excellence.aspx. If you have any further questions, please contact Linda Deans (780-441-6055) or Tina Monaco at (780-441-6074).

Pitt Meadows' Board of Education's New Superintendent

Pitt Meadows' Board of Education has appointed Sylvia Russell as the district's new superintendent and CEO, effective November 17, 2014. Russell spent 17 years with the Maple Ridge – Pitt Meadows school district in roles that ranged from principal and vice principal to director of personnel and assistant superintendent.

Since 2005, she has served as assistant superintendent of schools with the Coquitlam school district. Her impressive portfolio in that role included the supervision of all secondary schools, 13 elementary and middle schools, and distributed learning.



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QESBA Awards

In May 2014, the Quebec English School Boards Association (QESBA) lauded a number of school boards through the QESBA Excellence in Education Awards program. Over 17 nominations representing the nine English boards were submitted. The awards were given to boards in recognition of four types of activities.

- Public School Promotion:** New Frontiers School Board in Chateaugay for its campaign promoting bilingual public education, "Bilingue...c'est cool."
- Innovation in Teaching or Program Delivery:** Riverside School Board, for The Alternative School, a program for students at risk for dropping out of school.
- Adult Education and Vocational Training:** New Frontiers School Board in Chateaugay for "Trades in Motion," a multi-day event to promote 26 trades programs to prospective students, parents and the community.
- Community Engagement:** Lester B. Pearson School Board in Dorval for The Family and School Support and Treatment Team, an initiative that provides psycho-social support and intervention to students with social-emotional challenges by involving educators, families and community partners in service delivery.

From School Board to Province

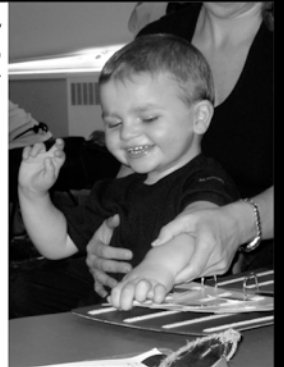
John Malloy left his position as the director of education at the Hamilton-Wentworth District School Board to become the assistant deputy minister of leadership and learning environment at the Ministry of Education.

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- Transitioning from PECS to other communication modalities



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St. Elizabeth Seton Catholic School Awarded Platinum EcoSchool Certification

The Durham Catholic District School Board honoured 43 Durham Catholic schools at its seventh annual EcoSchool Celebration in Oshawa, Ont. The EcoSchool program is teaching students valuable tools while inspiring leadership, community partnership and managing resources.

“Our students and staff are committed to preserving our environment,” says Chris Leahy, chair of the board of trustees. “Their environmental actions and practices implemented today will be valued for generations to come as they continue to share what they have learned and implement new ideas for a sustainable future.”

Ontario EcoSchools is an environmental education and certification program that helps school communities develop ecological literacy and environmental practices while reducing schools’ ecological footprint and becoming environmentally responsible citizens.

Since launching in 2007/2008, St. Elizabeth Seton Catholic School has reduced its garbage and energy footprint, achieved Gold Certification for the last six years and has demonstrated their commitment to the environment, while becoming eco-leaders for other schools to follow.



2014 Prime Minister's Awards for Teachers

Prime Minister Stephen Harper announced the recipients of the Prime Minister's Awards for Teaching Excellence and for Excellence in Early Childhood Education. This year's awards were presented to 54 teachers from across Canada. Of these, 17 national-level winners received their awards from the Prime Minister at a special event in Ottawa.

The Prime Minister's Awards for Teaching Excellence recognizes outstanding elementary and secondary school teachers in all disciplines who, through the innovative use of information and communications technologies, help Canadian students to meet the challenges of a 21st century society and economy.

The Prime Minister's Awards for Excellence in Early Childhood Education honour exceptional early childhood educators. A total of 10 teachers and seven early childhood educators (including a team of three) received a Certificate of Excellence (a national-level award).

A Certificate of Achievement (a regional-level award) was awarded to 25 teachers and 12 early childhood educators (including two teams of two). Of these, four teachers and one early childhood educator received designated awards for outstanding aboriginal educators (two national and three regional-level awards).



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2. Using the correct letter formation for penmanship?
3. Using the short vowel sounds to read or spell a word?
4. Using the long vowel sounds and other vowel pieces?
5. Being able to retell a story?
6. Being able to build a story?
7. Being able to add suffixes to words?
8. Recognizing and spelling homophones?

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READING SPELLING PENMANSHIP COMPOSITION COMPREHENSION

Used independently or to enhance a current curriculum.



- I spent forty years in the classroom, then ten years volunteering.
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- Dyslexic non-readers at **JUNIOR HIGH** became fluent readers.
- After being told he would not be able to print, a cerebral palsy student had nice penmanship.
- Rescue the Students Now was so successful in a Resource Room for Language Arts, that the district was given full funding for a Federal math program.

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