

2011/12 Finalists

www.cea-ace.ca/kenspenceraward







FIRST PLACE

Dundas Central
Students develop a tourism app for the town of Dundas

Dundas Central Elementary Dundas, Ont.

Hamilton-Wentworth District School Board

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Telephone: 905-572-6836 or 905-627-3521



In April 2011, the Grade 6 class began a collaborative inquiry with programmers from Australia and Finland and a digital media artist from New York City. Under their mentorship, students created content for their own iPhone application – an augmented-reality tourism app for Dundas, Ontario. As the project evolved, key elements distinguished this meaningful project-based learning from other classroom learning experiences:

Real Work: From the outset, students recognized that the project was different and were engaged. They had a "real" audience with Apple, and recognized that their work could be rejected if it didn't meet Apple's standards. With this intrinsic motivation, students developed a professional work ethic, demonstrated willingness to engage in difficult decision making, and were committed to high quality work.





Uncertainty and Chaos: This was pioneering work that hadn't previously been attempted in a school, so there were no models to follow. The students took ownership of developing processes and the project itself, and were involved in continuous problem solving, including learning from failures.

Web 2.0 Tools: The Internet gave students real-time access to experts. We transcended traditional ideas of "teacher" and "learner". Students and experts shared ideas and problem-solved. They listened carefully when advice was offered, and asked meaningful questions. Blogging, Skype, Twitter, email, and a wiki were used. Global interest in the project grew and transparency was part of the process. Students recognized their responsibility to work with a sense of professionalism.

Trust, Respect, and Commitment: A genuine sense of teamwork developed. The nature of the project required students to listen to ideas and set egos aside. Social status became irrelevant as a determinant. Decisions came down to: "would this be good for the app?"

Disappearance of 20th Century Classroom Models: The nature of learning became dynamic. Work space was privileged based on requirements for the project; gone were traditional concepts of seating plans with the teacher as dominant figure. Free movement was constant, and students independently found their roles within the project. Natural talents and leadership skills emerged and evolved.

Students honed their skills in:

- Literacy/numeracy
- Geography, including a GPS-based mapping system
- Digital photography, photo editing and GPS augmented reality camera system
- Visual arts/interactive design to create user interface
- ICT technology for digital content management
- Project management using online resources (Wordpress, Google Sites)

Other schools have begun to use this project model to create their own apps and websites. Among them, a Grade 4-6 class in Canada, Grade 5 students in Ohio, and a high school Indonesian language class in Australia. The next phase of the project will integrate global classrooms into a shared platform where students around the world can collaborate. The aim is to build a global base of culturally relevant Creative-Commons licensed curriculum. With this platform and model, students will learn digital citizenship skills, develop global awareness and experience firsthand the benefits of real audiences and meaningful work.





Website Links	http://heidisiwak.blogspot.com/
	https://sites.google.com/a/beingprudence.com/i-live-over-here/
	http://www.theglobeandmail.com/news/national/education/primary-to-
	secondary/globe-readers-nominate-innovatorsteachers-leading-
	classrooms-of-the-future/article2257387/
	http://www.transmediakids.com/2011/05/digital-literacy-collaborating-
	with.html
	https://sites.google.com/a/huron-city.k12.oh.us/lacrosse-
	science/home/butterfly-garden-app
Photo Gallery	http://www.slideshare.net/siwak62/app-titude-for-learning-rscon3-heidi-
Link	siwak





SECOND PLACE

Oasis Skateboard Factory

The skateboard becomes the learning catalyst for hard-to-engage youth

Oasis Skateboard Factory

Toronto, Ont.

Toronto District School Board

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The Oasis Skateboard Factory (OSF) began as a pilot project and has become a re-engagement program in its third successful year. The OSF strives to be a sustainable alternative educational opportunity for youth (who have not previously experienced a high level of success in school) to attend an enriched Toronto District School Board (TDSB) program that continues to be a site of innovation, entrepreneurship, and social change.

As the first school site in the TDSB fully dedicated to offering all subjects with a skateboard design and street art focus, the OSF helps students earn Grades 9/10/11 compulsory and elective high-school credits over one or two semesters. Here they learn hands-on to build skateboards, design original custom graphics, work with local artists and community partners, market and display their work, and have the opportunity to receive an honorarium all through a social justice and community focused entrepreneurial business framework.







The success and educational focus of the OSF speaks to the need for a high-interest, re-entry point for students to re/connect to school and stay in the TDSB by:

- Continued development of new Ontario Ministry of Education curriculum in areas such as the
 arts, English/Business (literacy/numeracy), learning skills which supports "at-risk" youth to
 stay in school, earn credits and develop transferable, creative, employment and
 entrepreneurial skills
- Addressing student academic needs and interests in experiential and community-based learning thorough differentiated instruction and arts intensified/arts integrated curriculum run in partnership with community mentors and partners.
- 93-100% course pass rates for first the two years of program
- Increased credit achievement equivalent to 1 credit per month/4 per semester.
- Improved attendance from previous schools.
- Decreased number of new intakes per semester while maintaining monthly student Full Time Equivalent of 18.
- High level of student/parent/guardian satisfaction and community involvement in the launch of the OSF school/business to the level of professional recognition.

The OSF is an example of innovation in education dedicated to helping teens explore creative art and business opportunities to be re-engaged in the classroom and community. By providing a "real world" learning opportunity, the goal of the OSF is to maintain a very high course completion rate for previously non-attending, non-achieving, hard-to-engage youth.

Website Links	http://3.bp.blogspot.com/_TwJzRCJCTME/Su-
	kXE4NFpI/AAAAAAAAAgU/fMr6J8RuS1w/s1600-h/OSF+in+National+Post.gif
	http://oasisskateboardfactory.blogspot.com
	http://1.bp.blogspot.com/_TwJzRCJCTME/S6lmoXogxZI/AAAAAAAAAA4/IUM47
	- sUiGY/s1600-h/A+Concrete+Education+SBC+Article.jpg
	http://push.ca/blogs/andrewsk/archive/2009/12/03/welcome-to-the-skate-
	oasis.aspx
	http://www.tdsb.on.ca/about_us/media_room/Room.asp?show=GreatThings&
	view=detailed&enableNav=true&self=31626
	http://oaea.ca/gallery_pages/featured_member.html
	http://photogallery.thestar.com/955112
Video Links	http://resources.curriculum.org/arts/skateboards.shtml
	http://www.sbcskateboard.com/video_display/video:2057/Oasis-Skateboard-
	Factory
	http://www.youtube.com/watch?v=gpEZhXpN-DE
Photo Gallery	http://oasisskateboardfactory.blogspot.com
Link	





HONOURABLE MENTION

The iDEC Program

A whole school approach to engaging learners

Caulfeild Elementary iDEC program West Vancouver, B.C.
West Vancouver School District

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iDEC is a school wide initiative to align and leverage three innovative themes emerging in education; digital immersion, inquiry-based learning, and soft skills (self-regulation, understanding, creative thinking and collaboration, empathy, enthusiasm and determination). In order to ensure all students benefit from these themes Caulfeild created a program with developmental appropriate opportunities where staff development and innovation is occurring at every class and at every age.

The technology immersion includes thinking of age appropriate uses of technology. At the Kindergarten/Grade 1 level, teachers are using Smartboards to introduce students to digital concepts and to support inquiry learning. At the Grade 2/3 level, teachers are using iPads while students have access to iPads for digital learning. At the Grade 4-7 level, all students are bringing in their own device. This program is innovative because it is the first experience we have had of supporting any device, any platform within our digital environment.





In order to ensure all students can participate in our digital environment "student webpages" or "dashboards" have been deployed for all Grade 4-7 students. Within the dashboards, students are able to communicate (email), collaborate (instant messaging and social networking) and create content (blogs, web documents). The dashboards are proving to be a nucleus or central area for student learning and participation and are a springboard for personalized learning opportunities.

The inquiry model of learning has received a significant amount of support and attention as our teachers develop small, just in time, inquiry opportunities. Using the *Understanding by Design* model, all teachers have created larger cross-disciplinary units based on the inquiry model. In addition, teachers have developed their questioning and teaching strategies to support just in time inquiry learning, embedding student ownership and wonder into every day.

Finally, the notion of self-regulation or "soft skills" has been highlighted within the school for a number of years. Teaching students to take ownership for their learning; to solve problems; to be creative, and to participate positively in the school community make up the school's "Succeed" skills. In order to elevate the Succeed skills to the place of high value, all teachers incorporate the skills into the learning and evaluation process.

iDEC is proving to be a model of school-wide implementation of innovative practices and learning. Through collaboration and professional practice, the environment for students has shifted dramatically as the three themes of digital immersion, inquiry-based learning and self-regulation enhance the learning experience.

Website Links	http://go45.sd45.bc.ca/caulfeild/blog/default.aspx
	http://www.ehow.com/info_8009652_technology-integration-schools.html
Video Links	http://go45.sd45.bc.ca/schools/caulfeild/Pages/default.aspx
	http://go45.sd45.bc.ca/schools/caulfeild/library/Pages/Reading.aspx
Photo Gallery	http://go45.sd45.bc.ca/schools/caulfeild/Pages/Photo-Gallery.aspx
Link	





HONOURABLE MENTION

Centre éducatif Saint-Aubin (Saint-Aubin Education Centre) Giving special needs students opportunities for success

Centre éducatif St-Aubin / Adaptation scolaire

Baie-St-Paul, Qc

Commission scolaire de Charlevoix Contact: Louise-Martine Lévesque

Email: louise-martine.lev@cscharlevoix.qc.ca

Telephone: 418-435-6802 ext. 2102



Richard Lahaie is a special education teacher. He works with 12- to 15-year-old students with special needs. The students in his class have learning difficulties and some also have attention deficit hyperactivity disorder (ADHD). Richard is their homeroom teacher and also teaches mathematics, English and educational projects. After seeing the different academic achievement problems encountered by students, he decided to incorporate information and communication technologies (ICT) into his daily teaching activities. Since then, several projects have seen the light of day: Multimedia in special education; Robotics in special education, Télévision Saint-Aubin (http://tv.saint-aubin.net/spip.php?auteur3), Mathé-Robots (Math & robotics) and the latest innovation Mathé-Parents (Math with parents).

All these projects have the same objectives: to increase motivation in school and to decrease behavioural interventions by improving each of the students' success in school. A website has been developed for each project. It presents the objectives, the methods used, and a summary of results. Richard's innovativeness in the classroom is reflected in the emergence of projects





that galvanize students and involve them in productions aimed at developing their academic and social skills.

Introduction to Cree culture: Videoconferences with a class of young Cree students from the village of Waskaganish. These students also came to visit us and we had the opportunity to learn about Cree cultural practices.

Film animation: Designed to make learning French meaningful (oral and written expression), this project introduced students to film animation techniques. The students in this group created a series of mini video clips. http://www.ehdaaeducation.com/spip.php?auteur2

Mathé-Robots: With a view to making learning stimulating and meaningful, the students regularly attend workshops introducing them to robotics. Besides captivating the boys, this project teaches them construction and programming techniques incorporating the essential knowledge taught in the Mathematics, Science and Technology program. http://robotique.planete-education.com/spip.php?article10

Mathé-Parents: Since last year, parents have been invited to attend class with their children on Wednesday evenings. Parents and children review the math concepts taught in class. Parents get a math refresher course, and children get the opportunity to show off their skills to their parents. In addition to allowing parents and children to spend quality time together, these Mathé-Parents sessions offer a golden opportunity for facilitating teacher-parent relations.

Website Links	http://www.ehdaaeducation.com/spip.php?article6
	http://robotique.planete-education.com/spip.php?article10
	http://tv.saint-aubin.net/
	http://www.forcesavenir.qc.ca/secondaire/finaliste_view/2818
	http://www.forcesavenir.qc.ca/files/media/164/10-01-08-qc-tvsa-
	coul300(2).pdf
	http://robotique.planete-education.com/spip.php?article12⟨=fr
	http://robotique.planete-
	education.com/IMG/pdf/communique_mels_robotique.pdf
Video Links	http://www.ehdaaeducation.com/spip.php?article28
	http://tv.saint-aubin.net/spip.php?article32
	http://robotique.planete-education.com/





HONOURABLE MENTION

MTHS Apps

Grade 3s and Grade 10s pair up to develop educational Iphone games

Mother Teresa Catholic High School Ottawa, Ont.

Ottawa Catholic School Board

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The tension in the air was palpable. Every face in the room was animated, busy arguing a point or making demands for new product features. Work was being planned, then erased, re-visited, and planned again. The task was clear and there were timelines that had to be met. There was no way to discriminate between the two equally-engaged classes involved except that the Grade 3 students tended to jump around and wiggle a lot when they were excited and the Grade 10 students tended to try to look cool, calm and in control, never betraying their own excitement.

Teachers are often told that learning should be collaborative, in groups, project-based, and focused on real-world outcomes. The problem is that normal classes only have a teacher as "the customer" and all the above "good teaching stuff" is nearly impossible to achieve. By actually having real customers, real due dates, and an independent third party looking at the results, everything can change.





This program pairs high school students with Grade 3 students to create educational iPhone games in line with the Grade 3 curriculum. As the "subject matter experts" and the "clients", the Grade 3 students become a vital part of the team while the Grade 10 students are the programmers. Most learning that happens in schools is compartmentalized, portioned out, and never referred to again. Simple things like a button took a week to create. There was debate and discussion over its size, what it should look like, and how it should act when you touch it. This would never happen in a normal assignment that is due one week after it is handed out. Motivating both classes was never a challenge because they knew they had face-to-face meetings scheduled where they had to present their deliverables. The pressure was intense yet positive and constructive. When the two classes were brought together, they had to work efficiently and they had to achieve their goals for the day. But, it was a team effort and this became more poignant as the project evolved and time passed.

A major outcome of this project was that both groups of students learned so much about the hard work, dedication, and incredible learning involved in creating an app. This was a very lengthy project conducted over several months. Student had short-term and long-term goals. Despite misgivings at many points, the goals were achieved with amazing success. Problems encountered were challenges to be "cracked" open. Perseverance, hard work, teamwork, and sheer determination combined for success. Although technology was used at every step of the process, it did not become the focus but was just used as a tool to enhance learning.

To see all 8 apps that were created, search for "MTHS" on the Apps Store.

Website Links	http://itunes.apple.com/us/artist/mother-teresa-catholic-	
	high/id385494267	
	You can also go to iTunes and search for MTHS. You will then be able to	
	see all the apps we have on the iTunes Store.	
	http://tinyurl.com/dyk84yy	
	http://tinyurl.com/8943ffq	
Video Links	http://tv.ocri.ca/2011/01/06/ottawa-high-school-tech-project-grade-3-	
	iphone-app/	





HONOURABLE MENTION

OKM Flipped Classroom Where the lesson becomes the homework, and the homework becomes the classroom learning



OKM (Okanagan Mission Secondary School)

Kelowna, B.C.

Central Okanagan School District 23

Contact: Carolyn Durley Email: cdurley@sd23.bc.ca Telephone: 250-764-4795

A Senior Math and a Biology teacher at OKM began flipping their classes. They recorded the essential direct instruction portions of their courses using screen capture software and posted these lectures on to *YouTube*. Students watch these videos at home in the place of homework and what was traditionally homework is now done in class. The opportunities of the flipped classroom model lie beyond the advantages of the videos, which are permanently archived on the Internet allowing students anywhere and anytime access. The videos allow students to watch lessons at their own pace, and repeat views of challenging topics. In this model, students avoid the frustration of completing homework they don't understand, and no longer complete assignments at home and then discover next class that it was done incorrectly. Students now work on the tasks of the greatest cognitive complexity when the teacher is readily available. Teachers can revisit concepts that students find challenging one and one. Students who do understand are free to move on and are not bored by revisiting a topic they have already mastered.

The benefit of the flipped class is the way time is used in class to introduce learning opportunities that the traditional model simply can't. In the flipped class, teachers have deep





and meaningful conversations, feedback, and interventions with each learner, and this accelerates how quickly they can respond to the individual needs of each learner. Students receive instant feedback rather than waiting for a high stakes test only to discover that crucial learning is not in place. The flipped class has allowed teachers to adopt mastery learning. Students reach mastery in a topic before they move onto the next and can repeat formative assessments until they are proficient in that topic. This immediate feedback informs both teacher and learner and redirects the learning plan for each learner in a timely manner. The time provided by the flipped class has allowed teachers to introduce inquiry-based activities on a regular basis. Instead of telling students what they should discover, they have the opportunity to construct their own understanding of the concepts in an authentic manner. Time for labs has increased and labs are more open ended and allow for true experiential engagement. Peer to peer interaction and instruction is also a key part of the flipped class. The teacher is not the sole authority and students are encouraged to work collaboratively. This creates a learning community that once established in the class continues to thrive and grow outside of class time. The flipped classroom model has allowed teachers to revolutionize how students are learning in their classrooms.

Website Links	http://goo.gl/YKfl3
	http://goo.gl/1Ah7A
	http://goo.gl/97YTc
	http://goo.gl/uTdDg
	http://goo.gl/z74mh
Video Link	http://youtu.be/v5zDUrkFac4





HONOURABLE MENTION

Community Studies Program

Reconnecting students to their aboriginal history, traditions, and community

Omiishosh Memorial School Pauingassi, Man.

The Manitoba First Nations Education Resource Centre (MFNERC)

Contact: A. Jane Tuesday

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Omiishosh Memorial School implemented a "Community Studies" course into its regular school programming. There are 18 Grade 9 students taking this course who will gain a credit from





Education Manitoba. Community Studies was designed, developed and implemented by the principal to meet the unique needs of the students using the following four components:

- 1. Knowledge of who we are: (mental self-concept)
- 2. Understanding our worth/value: (emotional self-esteem)
- 3. Using our power latent within us: (physical self-awareness)
- 4. To benefit the human race including ourselves: (spiritual self-determination).

The course is based on the Medicine Wheel philosophy, which includes aboriginal contexts of information and experience; our place on the planet, our sequence in the pageant of evolution and history; our relationship to the infinitely small and to the immense galaxies, our environments for birth, families, work, and death. It is the education of the whole person.

In this program, students are expected to do the following:

- The mental component: This represents 50% of the course load. Instruction focuses on learning about the historical aspect of the First Nations of Turtle Island (North America), which includes treaties, residential school experience, and local issues such as the lack of clean water and resources. This component also includes the confusion experienced by Aboriginal children in trying to synthesize two distinct world views and two distinct value systems using a language that is not their own.
- The emotional component: Students participate in the buddy system as formulated by the Student Mentor Project team for 20% of the course work load. This component is delivered by the principal in collaboration with the Child & Family Services Director. Two young people are employed and funded through CFS to serve as role models for the other students. They graduated from high school and have taken a year off to work at the school. Their mandate is to assist the Grade 9 students in up-grading their skills by providing tutorial services. A buddy system is set up between a Grade 9 student who spends two hours per week with a student from the primary grades. They read a story together and discuss it in both English and Ojibway, which is the first language in the community.
- The physical component: Participants in the program are expected to complete work experience. There are two students working at the Northen Store twice a week. Other students are placed with teachers to serve as helpers in the classroom, in the kitchen preparing daily breakfast, cleaners in the kitchen and school, and helping the janitors. The facilitator records their work ethic to ensure that students are learning work skills in the work place.
- The spiritual component: All participants interview the Elders and other community members. The work is compiled into book form and used in the classrooms for younger





students to understand their history. Storytelling from an Aboriginal perspective is instructive and not necessarily predicative. Stories do not purport certainties and there is no "happily ever after". The narratives are cyclical with no beginnings and endings. For those recording and listening to these stories, the story itself is telling thrilling, open-ended mystery stories about a world rich beyond imagination.

Website Link	http://www.theglobeandmail.com/news/politics/first-nations-youth-
	inhabit-two-different-spheres/article2244114/





Almalgamated Academy

Blended learning using Moodle develops unprecedented sense of ownership among students

Amalgamated Academy
Bay Roberts, Newfoundland and Labrador
Eastern School District of Newfoundland and Labrador

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Over the last four years, a group of committed teachers have been developing a technology integration program that promotes student ownership and engagement. They started by implementing the MOODLE (http://www.moodle.org) course management/virtual learning environment to assist with their classroom teaching. Soon after, they discovered the potential for developing an unprecedented sense of ownership among their students. Using the MOODLE framework, which includes; forums, wikis, blogs, chats, and other web 2.0 technologies, these teachers were able to connect with their students using the social media that they use every day, but with an educational twist.

Blended learning is the combination of face-to-face teaching with distance learning and web 2.0 technologies, which is common in the university and secondary settings, but uncommon in elementary and intermediate schools. The integration of distance learning and web 2.0 technologies allows teachers, students, and parents to connect on a different level. Even the shyest student has a voice in the digital age and this teaching approach emphasizes this point. The teachers quickly started using these tools in Language Arts, Social Studies, Science, and Technology Education. This approach has spread into a school wide goal of integrating a blended teaching approach into the curriculum at all grade levels. With a significant number of





teachers developing MOODLE class resources and activities through the support of a professional learning community, a '21st century school' is emerging.

Website Link	http://www.amal.k12.nf.ca/amal/
Photo Gallery Link	http://www.amal.k12.nf.ca/gallery/?dir=School%20Pictures/2010-
	2011/Netbook%20Classroom





B.O.S.S. Guitar Works

Building guitars, meeting celebrities, playing live music, and raising \$50,000 for charity is not your typical Industrial Arts curriculum

Ecole Selkirk Junior High Selkirk, Man. Lord Selkirk School Division

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B.O.S.S. is short for "Building on Student Success" and is a program designed to engage students through an innovative cross-curricular approach to Industrial Arts education. As indicated in the B.O.S.S. Guitar Club logo developed by the students, there are five key goals of the program.







- 1. Design 'Em refers to students being creative in designing the shape, size, and paint scheme of the guitars being built.
- 2. Build 'Em refers to students actually constructing fully-functional electric guitars with the tools and equipment from the school woodshop.
- 3. Paint 'Em refers to students learning how to use an airbrush to custom paint each guitar.
- 4. Play 'Em refers to students learning how to play guitar through the help of several local volunteer guitar teachers.
- 5. Share 'Em refers to the students auctioning off the guitars and donating the money to charity.

Last year, students met and exceeded all five goals of the B.O.S.S. Guitar Program by building over 100 fully-functional guitars and raised an incredible amount of money for The Canadian Museum for Human Rights. But the true success of the program cannot be measured in just guitars, or dollars and cents.

Throughout the year, members of the B.O.S.S. Guitar Club learned and experienced far more than what could ever be taught in a classroom. From museum visits, celebrity meetings, factory tours, public speaking opportunities, media interviews, and playing live in front of a crowd of 500 supporters, students created experiences and memories that will last a lifetime. The culmination of all the hard work took place at our B.O.S.S Guitar Club Gala in May, where over 500 people packed the school gym to bid on guitars, listen to several student bands, and Harlequin, a famous Canadian rock band.

The students involved in B.O.S.S. Guitar Club also gained a very real and true sense of the need for the advancement of Human Rights. This innovative program will continue with a new group of students. Fundraising will expand to ten charities chosen by the students. This program will continue to prove that a passionate group of junior high students and teachers can truly change the world.

Website Links	http://builtbysuns.weebly.com/index.html
	http://eedition.selkirkjournal.com/doc/Selkirk-
	Journal/SelkirkJournal/2011060101/#0
	http://www.winnipegfreepress.com/local/student-guitar-heroes-hit-the-
	right-note-for-rights-122765984.html
	http://www.92citifm.ca/events/more.jsp?content=20110421_163111_8248
	http://www.canadianmusician.com/news.php?news_id=487&start=&categ
	ory_id=&parent_id=&arcyear=&arcmonth=
Video Links	http://www.youtube.com/watch?v=E2cjdMpoe-U
	http://www.youtube.com/watch?v=dxYHU-NzKCk
	http://www.youtube.com/watch?v=474f-lXokJg





Father Mercredi Engineering Lab Creating the next generation of critical thinkers, aspiring engineers, and industrial technologists

Father Patrick Mercredi School: Science & Technology Centre

Fort McMurray, Alta.

Fort McMurray Catholic Schools

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Telephone: 780-799-5725



"What is engineering?" A simple question presented to students on the first day of school. From Grades 7-12, we were met with a sea of dazed faces and a faint sprinkle of hands trying to put together a definition.

The challenge: To create the next generation of critical thinkers, aspiring engineers and industrial technologists. When students entered the classrooms for the first time, jaws dropped. At their disposal was a room filled with individual workstations, including robotics, CNC milling, structural engineering, applied thermal science, AC/DC, and applied electrical control. These classrooms allow students to apply knowledge and develop a new understanding by designing, creating and testing their own ideas. The goal for both senior and junior high programs is to create a classroom environment that motivates, inspires, and engages students by providing them with opportunities similar to those they would experience in the real world. By engaging students in multiple science and technology learning opportunities, they can be prepared to make informed life and career choices that lead to post-secondary education options, explore local employment opportunities, and pursue future directions in the community.





These new courses provide an introduction to the field of engineering and industrial technologies. Exploring various technology-based learning systems while gaining hands-on experience, students will learn how engineers and technologists use math, science, and technology in a problem-solving process. Engineering students work in teams to research, design, and create a solution to an open-ended engineering challenge and showcase it to a team of professional engineers. Industrial technology students develop technical skill breadth and depth in all areas that will be valuable when applying for an apprenticeship or entrance into many post-secondary areas.

Junior high classes use a variety of differentiated activities to learn the fundamentals of engineering. For example, students will design, test and create robots using LEGO Mindstorm robotics, and for a greater challenge they will compete in a VEX robotic competition. Using simple, everyday materials, students are challenged to solve specific problems using only the material given in order to succeed. These activities allow students to apply a problem solving method to test their creative ideas. It is also very important for students to become involved in the community through meeting with real Engineers, Instrumentation Technicians, Electricians and Millwrights as well as competing against other schools to gain the experience and be introduced to different ideas.

As a teacher, the greatest transition is to teach students how to dissect a problem in order to find a solution. Encouraging students to try and perhaps fail in order to learn from their experiments. This has allowed students to become more independent and to appreciate their gained knowledge as something they worked hard to discover. Students are always working on different material and their motivation determines how well they succeed.

Website Links	https://sites.google.com/a/fmcsd.ab.ca/engineering/home
	http://fathermercredi.fmcschools.ca/students
Video Link	http://www.youtube.com/watch?v=qwegeaLWogI





The Hub

In the HUB, students and teachers are partners in learning

In the High Schools of Foothills School Division High River, Alta.

Foothills School Division Contact: Angela Auger

Email: augera@fsd38.ab.ca
Telephone: 403-601-1195



In September 2011, a designated area was created in each high school reflecting 21st century teaching and learning. Engaging, innovative, supportive and personalized learning is found in this open-spaced area where teachers, para-professionals, guidance counselors, learning coaches, and administration all collaborate with students to ensure success with their studies. More than a learning centre, a resource or support centre for students, the HUB is a classroom – students attend the HUB instead of a traditional classroom for their learning.





The HUB is available and offered to the entire student body and supports learners of any program, subject area, or ability. Students may choose to register and access the HUB for just one course (while attending their other timetabled courses), or may complete all their courses through the HUB. The approach to teaching and learning based on the 18th Century factory model - the system of four walls, time-based textbook driven, information delivery, and success for only some, is not found in the HUB. Instead, there are individualized learning plans, anytime, anyplace, any path, any pace learning, competency-based, and active, self-directed and motivated learners. Students access technology, using it as an accelerator to becoming better problem solvers, critical, complex, and creative thinkers. Teachers involved with the HUB have radically shifted their instructional practice from sage on stage to a guide on the side, encouraging construction of knowledge and engaged thinking. In the HUB, students and teachers are partners in learning. Students are reflective about what and how they learn best, they show teachers how to help them and the HUB provides learners opportunities to negotiate next steps and targets in their learning. In the Division's flagship high school of 1,000 students, 30-40 students registered for the HUB, and much to the surprise of program coordinators, 175 students (as of Oct 31, 2011) access the HUB in some capacity.

The HUBs are a true paradigm shift for high school communities. Beliefs and understanding of teaching and learning by all stakeholders – parents, learners, teachers, administrators and paraprofessionals are being challenged. They are all very proud and excited about this new way of working with students, and if cultivated with great care and intention, the possibilities are limitless.

Website Links	http://moodle.fsd38.ab.ca/LMS/course/view.php?id=374 - Click Login as a guest
	To access out CALM 20 course, follow:
	http://moodle.fsd38.ab.ca/LMS/course/view.php?id=374 and click on "Login
	as a guest" once at the Foothills School Division Moodle site. Please note that
	due to restrictions of FOIPP, this is not the live course but only course shell.
	http://www.westernwheel.com/article/20110922/WHE0801/309229963/-
	1/WHE/scho
Video Link	http://www.youtube.com/watch?v=Y_obaOsKEVc





Gille-Ville

Access to technology has leveled the learning playing field and transformed special education students into "learning ABLED"

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Gill-Ville is a special education class for junior aged students identified through an Identification, Placement, and Review Committee (IPRC) as first percentile learners with a Mild Intellectual Disability. Located within a newly reopened technology-focused school with access to many different tools, this program has provided students with a more "leveled learning playing field" and has transformed these children to become "learning ABLED".

Using a variety of online resources that support 21st century learning, students create and share content using various web 2.0 tools such as Voicethread, Voki, Wordle, and Linoit, as well as social media sites like Today's Meet chats, Twitter, Edmodo, blogs, and wikis. Students are developing their own personal learning network and are collaborating with students and teachers worldwide. They each maintain their own blog, writing longer posts that, for this group of students, would never occur with paper and pencil. The students provide meaningful





feedback in the form of comments on blogs and Edmodo posts. They have also used video conferencing and chat sites to meet in real time with other classes, separated over great distances, to hold book chats and learn about places far away.

In regular programs, these students weren't contributors to their own learning or to the greater group goals. In this program, with these tools, they are all eager participants who are motivated to learn and produce quality projects such as:

- Non-readers trying their best to read information shared by others on wikis, blogs, and other online platforms
- Non-writers putting forth their best effort in order to have something meaningful to contribute.
- Students with anxiety disorders, who are afraid to speak to new guest and adults, share their learning with every occasional teacher and visitor that enters our classroom.
- Students with speech difficulties work hard to make sure their voices are clear when presenting and communicating during video conferences

It's amazing to see the increased confidence and progression of skills these students are acquiring due to their interest and desire to use the tools that are available to them. Due to the level of engagement and willingness to take risks and try new things, students aren't afraid of failure and are finding different ways to move past learning stumbling blocks. Behaviour concerns that are typically associated with these learners are now non-existent in this classroom. The use of technology and the supportive learning environment these children are exposed to has made this classroom THE place to be at Ryerson P.S. These students are no longer seen as the "special class" and are now known as the "technology class", which has changed peer perception and encouraged acceptance for different learning styles. We are all successful, we are all important, and we are all learners in Gill-Ville.

Website Links	http://teachers.wrdsb.ca/GILLK - Cut and paste link directly in your browser
	blogs.wrdsb.ca/gillk
	kidblog.org/gill-ville
	bit.ly/uiAMDe
	twitter.com/gill_villeans
Video Links	http://www.youtube.com/user/GillVilleTV?feature=mhee#p/a
	http://www.youtube.com/watch?v=TJ7oCKLqlOo
Photo Gallery	www.flickr.com/photos/gill-villeans
Link	





Spreading 21st Century teaching and learning approaches from one classroom to another

St. Francis Xavier High School Edmonton, Alta.

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Jennifer Harasimiuk is a science teacher and a 21st Century Learning Skills coach for teachers, which involves improving literacy, accessing and connecting to prior knowledge, using technology effectively, and getting students to think critically and solve problems. These strategies allow students to navigate and utilize technology effectively and are cross-curricular and are applicable to all subjects.

This is not a typical high school classroom environment. Desks are in pods rather than rows, the décor is student-generated, and all tools that students can use to develop their literacy skills and evaluate information. Students are encouraged to use personal mobile devices, iPads, the SMART board, and the classroom portal. This environment facilitates student communication and collaboration, as well as incorporating technology in meaningful ways. Students are taken out of a passive role and into an active one, where they must collaborate, problem solve, and think creatively. A variety of teaching strategies and classroom activities go beyond simple recall of knowledge, and involve Bloom's higher order processes: application, analysis, synthesis, and evaluation. Students are excited about learning and interested in the different ways that information is given to them.





Some of the strategies involve frontloading activities, where students are accessing prior knowledge and applying it to new problems. Students write questions, comments, and opinions about films or articles and are asked to make connections through categorization or creating concept maps. One creative assignment involved students writing poetry to help connect the structures and functions of the brain.

St. Francis Xavier has allocated some of Jennifer's time to working with staff members on incorporating these learning strategies into their own classrooms. This has been through one-on-one sessions, small group sessions, and modeling one of the activities with students. Not only does this teacher provide the skills and tools to engage students and teach them HOW to think, not just what to think, but she collaborates with all staff members and gives excellent professional development for other teachers.

Video Link





Inquiry for the Digital Age

St. Marguerite Catholic School Spruce Grove, Alta. Evergreen Catholic Regional Division No. 2

Evergreen cathotic regional Division No.

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Grade 7 and 8 classes have been using the inquiry model to create projects that tap into what Kuhlthau, Maniotes, and Caspari refer to as "third space". It's the place where curriculum and personal interests overlap to create a learning environment where students are engaged, dig deeper into their topics, and their presentations are interesting to classmates because it is relevant to them.

Parents have been "invited" into the classroom via technology and they can subscribe to a blog where they receive daily updates about what was learned that day. Questions are posted for parents to answer, which creates a visual answer board, homework updates, school events, helpful links, and the ability to contact the teachers. In addition, a Facebook classroom is set up for Grade 7 and 8 students as an online extension of the daily classroom where they can post questions, links, answer each other, or contact the teacher. It is an ever-evolving space.

Wikis house all the information and documents needed for projects, and the blog introduces tools to support the inquiry model. Online collaboration notebooks, presentation tools (Prezi, Xtranormal and Evernote), and bookmarking help students work collaboratively both in and out of school and they are extremely engaged and motivated when they are using YouTube, Animoto and Slideshare. The tools are modeled when students ask about them.





Teachers are integrating these tools on a larger scale throughout the school community, completed within the inquiry model framework, supported with Web 2.0 tools and literacies, and a bridging between the school and the home. All of this is on a wiki (http://mydigitalidentity.wikispaces.com) to support staff, students, and parents in their journey of learning about Web 2.0 Tools, Inquiry Model, and Digital Identity.

Website Links	http://scheidemansschoolhouse.blogspot.com/
	http://mydigitalidentity.wikispaces.com/Home+Page
	http://web2ptome.blogspot.com/
Video Link	http://youtu.be/MXh-nOH8Emo





The Idea Hive

Two classrooms, 2,700kms apart, harness the power of positive learning communities

Turnberry Central / J.H. Kerr Wingham, Ont. / Snow Lake, Man. Avon Maitland DSB / Frontier School Division

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The Idea Hive is a classroom like few others around the globe. It is 2,700 km across and joins together Grade 7 and 8 classrooms from Joseph H. Kerr school in Snow Lake, Manitoba, and from Turnberry Central in Wingham, Ontario.

After "meeting" through Twitter, the two teachers worked together to build a community of learners in online spaces. Using a wide variety of social media tools (Twitter, Skype, Wordpress blogs, Linoit virtual bulletin board, and Google docs), students have built relationships, explored their passions, and engaged the world in critical and creative ways.





One example of a major project featured Markus Zusak's novel, *The Book Thief.* Before reading this novel, students from both schools worked together to research topics related to this book (WWII, Jesse Owens, Kristallnacht, etc). A teacher in Florida skyped with both classrooms simultaneously to discuss her family's Kristallnacht experiences.

Once students' knowledge was activated and they were critically engaged with questions surrounding their self-chosen topics, teachers read the book aloud to the students. But instead of completing this as a standard read aloud, it was read to the classes using Skype. Each day, one teacher read, while the other supervised the students and guided their discussions in a private chatroom while the reading was occurring. This process was incredibly motivating for the students and the teachers were challenged to keep up with their thoughts and questions about the readings. Following the reading each day, the students reflected on what they had heard, posting their comments for the day on an online sticky note for all of the students to see and learn from. This was to be a powerful experience for teachers and students.

Once the book had been read, the Idea Hive moved into collaborative writing mode where each day students worked in small groups on Google docs to write a field guide to Molching, the fictional town at the centre of *The Book Thief*. Once again, students talked on Skype, worked in chatrooms, and used a number of tools to pull together an 85-page book.

The teachers pulled the writing together and moved over to Lulu.com where the entire work was published as a hard copy book. The looks on the faces of the students when the boxes were opened and the real, physical books came out, was worth every moment of frustration. Finally, this portion of the collaboration culminated with a visit via Skype, with Markus Zusak, the Australian author *The Book Thief*.

This project is one example of the power of positive learning communities and the changes to pedagogy that have grown from this collaboration, which is continuing throughout the 2011/2012 school year.

Website	http://www.evenfromhere.org/?s=idea+hive
Links	http://heatherdurnin.com/tag/idea-hive/
	http://unplugd.ca/page/unplug-d11
	http://thecleversheep.libsyn.com/webpage/the-field-guide-to-molching
	http://www.ideahive.org
Video	http://vimeo.com/26916517
Links	http://vimeo.com/28268098