Notebook

Schools to believe in!

Innovation and creativity are all around us

Examples of innovation in teaching and learning abound in classrooms throughout the RCCDSB…

A culture of coding

Advanced Learners program: Coding and STEM/STEAM

Computer science, coding and STEM (science, technology, engineering, mathematics) or STEAM (science, technology, engineering, the arts, mathematics) activities are being incorporated in classrooms across the RCCDSB. The integration of science, technology, engineering, the arts and mathematics can *literally* bring learning to life! Last spring, three RCCDSB educators presented a series of hands-on workshops to students in Grades 4-8 that focused on developing 21st-century computational knowledge and skills. These aspiring innovators and inventors enjoyed experimenting with new technology and coding programs, building and programming LEGO WeDo and Mindstorms EV3 robots, and learning how to use green screen technology to create animation shorts.

School-wide monthly coding sessions

Once a month teachers and students at St. Michael's Catholic School in Douglas gather to share an inspiring coding lesson.

"The activities are chosen according to what we believe is a natural progression, a computational thinking/coding continuum, beginning at unplugged activities, progressing to block coding and on to micro:bits and their extensions," says Catherine Searson, one of the Innovation team leaders along with Rebecca Holly.

Classes are paired up to allow older students to model for the younger students and give older students a greater sense of purpose.

"The older students have become the readers for the younger students and also leaders. We meet in the gym to provide the space needed for hands-on, exploratory work," explains Searson.

Some of the coding day activities to date include:
- In partners of one Grade 4/5 student with one Kindergarten student, they used a creature and some maps and gave each other directions to get the creature to its lunch.
- The Grade 4/5 class was introduced to data and binary coding. Gaining a greater sense of bits and bytes, the students were tasked with solving problems using the basic code of ones and zeros. They represented the numbers 0–31 and were sent back to class with a riddle to be solved using a code based on the binary system.
- Students in Grade 3 and Grade 7/8 worked with micro:bits. The micro:bits were a huge hit. Students began with a simple code to make a beating heart, and were very engaged with a rock, paper, scissor activity. When the younger students went back to class, the older students coded their micro:bits as step counters and left the gymnasium running to see who could collect the most steps.
- Dash and Dot Robots from Wonder Workshop that work with block coding were set up on a long roll of kraft paper. Students drew a habitat on the paper including a water way and other features. Then, some 'garbage'

(pompoms) were thrown onto these habitats and students programmed the robot to clean up the environment. This lesson led to increased engagement with coding the robots.
- In October, two teachers from St. Michael's joined teachers from 10 other schools and spent the day connecting micro:bits to the curriculum with sensors, speakers, and other tools adapted for use with these mini microcontrollers.

The innovation days will continue to evolve as students' interests and comfort level with coding changes. Already the Grade 7/8 class has begun integrating the micro:bits into their science lessons. The Grade 3 class outgrew ScratchJr (software program) on their iPads and have begun to borrow Chromebooks from the older grades to dabble in Scratch, and the Grade 1/2 class has an unplugged coding station during their math block. Change is awakening the computational thinking, creativity, and problem-solving parts of many students' brains at St. Michael's School. A culture of coding is being created.

Google Read & Write technology is helpful for all

There were smiles on the faces of junior students across the Board this September and October as their teachers announced, "It's time to get out your chromebooks!"

Two Inclusion Special Assignment Teachers (SPATs), Vickie Anderson and Shauna Rampton, formerly of St. Francis of Assisi, Petawawa, and St. John XXIII, Arnprior, respectively, travelled to all 59 junior classrooms across RCCDSB to provide Google Read & Write training to staff and students.

"The tiny purple puzzle piece in the upper right hand corner of every screen can be easily overlooked," explains Rampton. "Our mission was to inform all students and staff that they are licensed to use this software and to show them the functionality of all of the tools available."

"All students were able to take away something new from the hands-on instruction they received," Anderson adds.

Favourite features:
- students can have material read *to* them—even their own writing can be read back to them for editing purposes.

Flexible seating arrangements in many classes made the environment for using technology very relaxed and comfortable. Here, two girls from St. Joseph's in Calabogie are enjoying "reading" and "writing" during their whole group instruction.

- one Grade 5 student from St. Francis of Assisi said of the Screen Masking feature, *"This tool is going to change my life!"* Having always struggled with the glare from an all-white computer screen, she was thrilled to find out that she could "mask" her screen in a variety of light background colours to make reading easier for her.
- software has the ability to predict the word students are trying to spell and list words they might need next in their writing. Combining Word Prediction (in visual and auditory forms) with the Dictionary and Picture Dictionary tools opens up a world of possibilities for students who struggle with spelling, word choice, and typing skills while meeting the needs of both visual and auditory learners.
- Classroom teachers could see the benefits of being able to click on a word and go straight into a Web Search on that topic.
- French teachers were intrigued by the ability to Translate words at the click of a button and have the words read aloud in both languages. By changing the "Language" and "Voice" settings, French teachers could potentially have students read, write and use word prediction *en français*.
- younger students were excited by the Practice Reading Aloud feature where they can record and playback their oral reading. Hearing their own voice, fluency, and expression is very reinforcing and will come in handy to track growth when preparing for speeches or oral presentations.

A Google Form survey was sent out after the first round of training to all staff members involved. The results will be used to inform decision making and instructional next steps going forward.

"The goal is simple—to get Google Read & Write technology used regularly and seamlessly in our classrooms," shares Rampton, noting that further training could include the extra features of the Highlighters and how students can Collect Highlights to sort information or build Vocabulary charts or dive deeper into using specials tools like Voice Note, Hover Speech, Simplify Page, and Check It, which were not covered in every class this round.

This board initiative of whole class Google Read & Write instruction is bridging the Technology and Special Education Departments at RCCDSB. It embraces the Universal Design for Learning philosophy of *"What's necessary for some is helpful for all."* Technology supports are being made available to ALL students who can then decide which tools they want or need to be most successful.

Online feedback in real time

Google Docs allows users to create, edit and share files online in real time.

"For the past few years, I have been using Google Docs for most student work," says Michael Britton, teacher, Bishop Smith Catholic High School.

One feature of Google Docs is 'suggesting mode' where changes are not made directly in a document and the author has the option to accept the change.

"This allows me to provide formative feedback with ease, giving a digital 'look over the shoulder' and dropping comments or suggestions into a work in progress," notes Britton.

He has also experimented with having students in academic classes make "learning logs" wherein he or they can record feedback on work throughout the term.

"I'll refer them back to this shared document before beginning subsequent related assignments. The culminating activity for the course has students go to the document, find areas where they have improved, and identify areas that need further work. That culminating activity is therefore testing the "metacognitive" expectations that are part of each strand in English."

Britton has also built a small bank of "prefab" feedback documents. Instead of writing an explanation, a comma splice in the margin, he adds a hyperlink to a document he prepared that explains and gives examples. "It's a time saver for the teacher."

Creating Culture Rooms in our schools

Calming, healing, inspirational, educational… specially outfitted rooms in two RCCDSB schools provide a quiet and peaceful environment where students can be immersed in Indigenous culture.

The Algonquin Language and Culture Room at St. James Catholic School in Eganville was moved upstairs this year.

"With a new room comes a fresh perspective," shares Kellie Hisko, the Board's Indigenous Education Lead.

Features of the room include fresh paint, authentic resources, and prevalent use of the language. Michele Gaudry, Algonquin Language Teacher, has created resources in the language to produce an authentic immersion experience for the students.

The room also features two sewing machines for cultural projects and flexible seating. Housed in the heart of the classroom is Grandfather drum. Around him are the tables and chairs for student use, arranged in a circle that is representative of the medicine wheel. An interactive bulletin board of the medicine wheel is used during most lessons. Students sing O Canada in Algonquin and say a Morning Prayer in Algonquin as well. Most can introduce themselves in the language identifying their clan and where they are from. Further plans for the room include a display cabinet with artifacts significant to the Algonquins of Pikwakanagan, as well as cultural pieces important to the students at St. James.

The Hila Indigenous and Outdoor Learning Centre that has been created at Bishop Smith Catholic High School (BSCHS) in Pembroke is dedicated to Wayne and Carol Campbell, who led many science and technology projects throughout the RCCDSB since 1986.

The room includes culturally appropriate items relevant to all three Indigenous communities—First Nation, Métis and Inuit—and is open to students as part of the curriculum, but also as a place to seek refuge during their day. It is not hidden, it's very visible, but it's located in a quieter area of the school.

"It's a room of opportunity and love, but yet still educational on indigenous culture and traditions. I think the Hila room is such a great addition to Bishop," says Mishayla Morrell, Grade 10 student.

Grade 9 students Brandon Turner, Logan Beanish and Kathryn Gendron smell the soothing aroma of sweet grass and pass the braid of grass around.

Grade 9 NAC 1O students (Expressing Indigenous Cultural class) look at a replica of the Two Row Wampum Belt discussing the treaty behind it and what it represents.

Drum making workshop at Bishop Smith Catholic High School.

The room is also available to be used by elementary classes, as well as for teacher learning initiatives, shares Clint Young, BSCHS Principal.

An interactive bulletin board of the medicine wheel is used by students in the Algonquin Language and Culture Room at St. James Catholic School.

"The Hila room just gives off a positive/welcoming vibe that makes people feel comfortable with expressing themselves in so many different ways. Whether it's Indigenous drum-making workshops or just to talk. I think it's such a great positive place to be in," says Mishayla Morrell.

Indigenous education

Innovative activities took place in Indigenous Education in schools across our Board this fall to highlight Treaty Recognition Week.

- Presentations about the significance of the 1764 Treaty of Fort Niagara also had students building the 1764 Treaty of Niagara Wampum belt out of Lego pieces.

Students in Grade 5/6, 4/5, and 6/7 at St Mary's Catholic School in Deep River work on Lego Wampum belts and colouring the Wampum belts.

- Brian Charles visited St. John Bosco Catholic School, Barry's Bay, St. Francis of Assisi, Petawawa, Holy Name Catholic School and Cathedral Catholic School in Pembroke, and St. Anthony's Catholic School in Chalk River.

Brian Charles is an off-reserve Band member of the Chippewas of Georgian Island. In his presentation, he showed how the wampum was used to record relationships and treaties between the First Peoples of the Eastern Woodland and settler societies in Canada.

Right: In response to a Wampum belt presentation at St. John Bosco Catholic School in Barry's Bay, Jordan Norris' Grade 7/8 class extended their learning by creating their own wampum designs representing a treaty they made with another person. They drew the wampum on graph paper, calculated the perimeter and area of the wampum and worked out the cost to build their wampum out of beads.

Students engage in creative 'design thinking' with 3D printer

The RCCDSB's latest Teacher Learning and Leadership Program (TLLP) incorporates science, technology, engineering, and mathematics (STEM subjects), along with a generous measure of creativity.

The 3D printing TLLP was one of two selected by RCCDSB and was subsequently approved by the Ministry of Education.

"The goal of this TLLP is to engage learners using 3D design software, 3D printing, and opportunities to construct larger scale models of their designs using common building materials and simple hand tools," says John Artymko, TLLP team member/teacher at St. Francis of Assisi Catholic School, Petawawa. "This project provides another way for students to express their knowledge, skills and interests."

Other members of the TLLP are David Afelskie, St. John Bosco Catholic School, Barry's Bay, Angela McGrath, St. Michael's Catholic School, Douglas, and Andrew Kraftchick, Dave Beaupre and Tyson Holly from Bishop Smith Catholic High School.

So far, Artymko says students have learned Tinkercad 3D software to create 3D designs from scratch.

"They've learned to manipulate, organize and merge basic 3D objects to create entirely new objects and designs. These designs have subsequently been printed," confirms Artymko, noting that his Grade 5 students will go out and teach students in other classes as well.

"We do it from scratch to learn the process and be more original."
                                                    –Lucas

Coming up next, using the design thinking process, students will consider how they can use their creative abilities to make the world a better place by designing objects that meet needs; they will use simple hand tools to create larger models of their 3D prototypes. The results of this fantastic project will be shared with colleagues in our schools, the RCCDSB and teachers everywhere.

"It took us a long time to learn but now we could easily teach other students."
                                                    –Ryker

"It's like a puzzle using shapes and sizes to make your own thing."
                                                    –Lily

"It's really neat because you can make your own creations."
                                                    –Mackenzie

Flexible seating paired with technology leads to creative, collaborative learning

The RCCDSB has made an investment in flexible seating, earmarking funds for each school across our Board to enhance collaborative learning environments.

Staff and students at St. Joseph's Catholic School in Arnprior have embraced technology and flexible seating in the hopes of encouraging creative and collaborative thinking through 21st century learning.

—*"The stools are awesome! I can be up high or down low"*

–Blake V.R.

"Our Learning Commons has already become a 'hub' and preferred learning space for our students," says Christina Dewar, Grade 6 teacher, St. Joseph's, Arnprior.

—*"I wish we could stay in here all day!"*

–Keyanna M.

With round tables, comfy chairs, stools that adjust in height, and a large table for "maker-space", students feel the freedom to create and explore and have a genuine excitement for learning.

"They want to try new things as they are exposed to the 'world beyond their classroom'," shares Dewar.

The seating is paired with technology such as green screens, Scratch and Micro:bits, so learning becomes student-driven, hands-on, practical, authentic and most importantly, builds confidence.

—*"Is it alright if I help out some of the class with green screen?"*

–Ben C.

"As our year progresses, we will continue to expose students to coding through technology such as MAKEY MAKEY, littlebits, Sphero Sprk, Ozobots, Ozmos and cubelets, which are all **in** our school and accessible to our students thanks to the Innovative Learning Fund made available by our Board," says Dewar.

There's a new SHSM in town and it's amazing and fun for students

A new Information and Communications Technology (ICT) Specialist High Skills Major (SHSM) allows students to build their knowledge and skill in the communications sector. This SHSM may be focused on a particular aspect – for example, communication systems, computer systems, or software and digital media – and at St. Joseph's High School, students are gaining experience in media-related communications and equipment.

"There's always been the idea of changing the format of our morning announcements to something that might be received a little better by the students," says Steve Jones, teacher, St. Joseph's High School, Renfrew. "With the acquisition of certain media-related equipment, we're now in a position to do that, with our announcements soon to be rolled-out as a live-stream news program as part of the program."

Live streaming content requires quite a bit of effort, according to Jones, with several defined roles, each with its own unique skill-set, coming together at the same time in order to produce something that will be viewed by several hundred people at once.

"For the students involved, it's not the NEWS as much as it's the gathering, capturing, packaging, and distribution of the news on a daily basis," adds Jones. "Not only are they immersed in a collaborative workflow, they are working with cutting-edge equipment and software. Rather than simply having a camera pointed at a couple of giggling teenagers, the intent of the MORNING NEWS is to emulate, as closely as possible, the professional-grade product one might expect to see from people who do this for a living."

The workflows and skill-sets are specifically associated with television and video broadcasting, as well as photography, graphic design, website production, and social media. There are also elements of journalism, marketing, advertising, and storytelling that align with workplace and industry trends in communication.

Micro:bit Halloween Challenge: taking pumpkin carving to the next level. Each group of students was given a micro:bit along with a different sensor for the micro:bit and a speaker and challenged to incorporate this into a jack-o-lantern design using The Design Cycle to make some sort of noise when their sensor detected sound, light or motion.

"We're using a lot of technology that may not be available in other schools and that's what makes this course epic. For example we just got new computers, mice and micro:bits which you may not find elsewhere in the community."

- Ben Searson

"This course is something I can relate to my video game passion."

- Bradley Cliche

"It's good to finally have classes that are interesting to me."

- Donald Arsenault

"It was fun to use the k8 robot with the micro:bit."

- Jacob Booth

"It's an awesome course because there's a lot of new and interesting things to learn."

–Diego Morales

Message from the Director

This issue of *Notebook* focusses on innovation and creativity. Sometimes, these words are taken to mean the creation of some world-changing product or way of doing things, but we know that creativity and innovation exists in many small ways in the day-to-day activities of our classroom and school communities. Education thinker Sir Ken Robinson argues that, "A life-long sense of curiosity is one of the greatest gifts that schools can give their students." When we can tap into the sense of wonder and curiosity even our earliest learners have about the world, we can foster the conditions to help unlock the creative gifts that are present in every student. We hope you enjoy this edition of The Notebook in which we try to capture a few examples of innovation and creativity in the RCCDSB.

Jaimie Perry
Director of Education

Message from the Diocese

In the last *Notebook* reflection, we examined many of the great contributions to science, culture and the arts by people of faith and how such advancements should lead us to be in awe of the grandeur of God. With the great discoveries that we benefit from today, we must also be aware of the tremendous responsibility that we have for proper use of the technology at our disposal. Objects of social communication can greatly enhance our lives, but at the same time they can also be used to destroy lives. Think of the tremendous social networks at our disposal: instant communication, photo sharing and the dissemination of news to a vast digital audience. Do I always use these tools in a way that respects dignity and reputation of others? In his recent apostolic exhortation *Rejoice and Be Glad*, Pope Francis addresses these new realities: "Christians too can be caught up in networks of verbal violence through the internet and the various forums of digital communication. Even in Catholic media, limits can be overstepped, defamation and slander can become commonplace, and ethical standards and respect for the good name of others can be abandoned. The result is a dangerous dichotomy, since things can be said there that would be unacceptable in public discourse, and people look to compensate for their own discontent by lashing out at others. It is striking that, at times, in claiming to uphold the other commandments, they completely ignore the eighth, which forbids bearing false witness or lying, and ruthlessly vilify others. (No. 115, *Gaudete et Exsultate*)." St. Philip Neri, a great 16th-century saint, once instructed a woman struggling with gossip to go to the window at the top of the house, cut open a pillow and release all the feathers into the street. He then asked her to go into the street and pick up all of the feathers and put them back into the pillow. Naturally, the woman protested and said that to do so would be impossible. St Philip told her that was precisely the lesson: that once our words are released, it is impossible to pick them all up again and put them back. Let's use the great means of social communication that we have to evangelize, uplift, encourage and console others. Hitting "send" is like opening the pillow!

Reverend G. Ryan Holly
Our Lady of Fatima Parish, Renfrew/St Patrick Parish, Mount St Patrick
Judicial Vicar, Diocese of Pembroke

Message from the Chair

With the 2018–2019 school year well under way, my fellow trustees and I are delighted with the progress our Board has made in helping our students to embrace 21st-century learning opportunities. We are determined to provide the highest quality of education in our faith-based education system, as well as ensuring a safe, respectful and caring environment for our students to flourish and achieve their personal best.

This issue of Notebook describes just some of the latest teaching tools and technologies we use to help our students achieve success, as well as learning how to become responsible and caring citizens in our ever-changing world.

On behalf of my fellow trustees, I would like to thank all of our Board staff, as well as community members for the role each of you plays in helping our students to grow and learn. Thank you to our parents, clergy, and all those who support our family of schools in myriad ways. God bless you.

Dave Howard
RCCDSB Chair

Message from the PIC Chair

Welcome to the 2018/2019 School Year!

My name is Jill Eady and I am the chair of the Parent Involvement Committee with the Renfrew County Catholic District School Board. I would like to take this opportunity to congratulate our previous chair, Hazel Mitchell-Power, on her retirement from the committee and extend our gratitude for her dedication to parental involvement within the RCCDSB.

The Parent Involvement Committee is an advisory body that provides a forum for parents to contribute to improving student achievement and well-being, while assisting our Board by providing input and recommendations on matters that effect student learning, while ensuring preservation and maintenance of Catholic education. New members to PIC are always welcomed and I would like to take this opportunity to invite anyone who is interested in learning more about PIC or joining, to please contact me for more information.

Parental involvement in the education of a child is just one of the ingredients for the recipe of nurturing success of a child. I think it is important to remember that success is more than academic grades; kindness, gratitude, sharing, and caring are key components in this recipe for nurturing a child.

As the 2018/2019 school year continues, the PIC welcomes ideas on encouraging parental engagement in the education of a child. Not only do we welcome ideas, but we are also interested to hear what YOUR school is doing that encourages you, as a parent, to engage in your child's education. Please feel free to send me an email to share your stories, ideas, suggestions, or questions: **jeady32@outlook.com**

Wishing everyone a safe and successful 2018/2019 school year.

Thank you,
Jill Eady, Chair
RCCDSB Parent Involvement Committee (PIC)