

Enrichment Program Report
Vincent Massey Collegiate
2021-2022

A specific aim of the Gifted and Exceptional Learners' mandate for the 2021-2022 academic year was Matching Instruction with Needs through design and implementation of School-wide Enrichment initiatives and Acceleration Strategies (i.e., compacting curriculum) for individual bright and talented students at EMSB schools.

At **Vincent Massey Collegiate**, we successfully designed and implemented two individual enrichment programs (by compacting curriculum in Math and Arts), and two school-wide enrichment programs, namely--Mathematics Caribou International and Let's Talk Sciences. In addition, we piloted in Mr. Kelly's ELA classes, the Future Problem-Solving Program based on Dr. Torrance six-step creative model, which teaches critical and creative thinking, problem solving, and decision making, which we intend to integrate as part of ELA classroom curriculum, namely through scenario writing and performance components. In addition, we also plan to conduct a school wide ECA based on the Global issues Problem Solving component of FPSI. Recommended time commitment for completing the 1st practice problem is 12 – 15 hours of instructional time. Students will join this program as an after-school club meeting once a week for 2 hours, starting in October. Students will gain 2 credits for participating in this club.

VMC' s achievements in each program are discussed below along with future enrichment plans for the upcoming school year of 2022-2023.

Let's Talk Science Competition (1.5h/ Weekly February-May 2022)

Since 2005, Let's Talk Science Challenge offers to Canadian youth (Grades 6-8) with an interest in science the opportunity to engage in enrichment challenges related to technology, engineering, and math (STEM). Specific benefits associated with engagement in LTSC include:

- Provides an outlet for students who are not being challenged by the curriculum
- Inspires students to consider future education in STEM and potential STEM careers
- Enriches curriculum in eight subject areas: Biology, Chemistry, Earth Sciences, Engineering & Technology, Environmental Sciences, Math, Physics and Space Sciences
- Emphasizes team collaboration, cooperative learning, and problem-solving skills

Through engaging in STEM enrichment challenges, students develop key skills including:

- Creativity
- Critical analysis
- Teamwork
- Initiative
- Communication
- Problem solving
- Independent thinking
- Digital literacy

This year's edition of the Let's Talk Science Challenge was virtual. The Play and Learn Weekly activities were conducted under the guidance of a mentor with the scope of helping students prepare for the final competition. The Let's Talk Science Challenge included three components:

- The theory component with the weekly quizzes leading to the Final Question and Answer Competition
- The hands-on component with multiple Design and Build Challenges that help students prepare for the Final Engineering Challenge
- The team spirit component with the Above and Beyond badges and the Lorna Collins Spirit Award.

Twenty bright students in secondary 1 and 2 with a great interest in sciences formed the VMC School's delegation. These are Anaïs Comte, Kaleb-Wolf de Melo Torres, Giuseppe Di Sano, Victoria Chassé, Peter John Makridis, Jayden Corsetto, Abigail Grad, Liam Bredèche, Sophia Cantello, Owen Lemay, Molly Sumner, Adriano Hudon, Gabriella Wahba, Aparna Padinjare, Ramona Ciccarelli, Gabriella Varricchio, Carrera Marateo, Gaspar Silva Mendes, Joshua Frattasio. Each participating student was awarded a \$15CAD Indigo gift card covered by the Mesure 15027.

VMC's LTSC teams Achievements

Final Q&A Competition: The final theory component. Students participated in a two-hour (virtual) quiz conducted by the LTSC organizers.

2nd place, VMC Team 2, Montréal, Québec

Aparna Padinjare, Liam Bredèche, Kaleb-Wolf de Melo Torres, Molly Sumner,
Sophia Cantello, Owen Lemay, Jayden Corsetto

Engineering Challenge (Flipgrid videos enclosed)

VMC Team 1 - <https://flipgrid.com/s/xMf-c9-Br8Gf>

VMC Team 2 - <https://flipgrid.com/s/48FUNzfiUJPt>

VMC Team 3 - <https://flipgrid.com/s/vkToyyfGzrZ6>

ABOVE AND BEYOND AWARDS (enclosed Flipgrid videos):

Each week between February 14 and April 25, students participated in fun interactive quizzes and submitted videos for design and build challenges. Below are the winners of the weekly Above and Beyond awards for these events:

Biology

Megan Summer: <https://flipgrid.com/s/xrSgmPR6H8s3>

Physics

Anais Comte, Ramona Ciccarelli and Gabriella Varrichio: <https://flipgrid.com/s/KvsGDxJq9tyf>
Gabriella Wahba, Liam Bredeche, Abigail Grad and

Victoria Chasse: <https://flipgrid.com/s/ts3FdxzSKLKS>

Math

Abigail Grad, Carrera Marateo, and Livia Lemay: <https://flipgrid.com/s/HRDNz6KWRKAY>

Gaspar Silva Mendes and Adriano Hudon: <https://flipgrid.com/s/dVpBQfJYGyhn>

Gabriella Wahba and Victoria Chasse: <https://flipgrid.com/s/QE4eAdhWyVN9>

Environmental Sciences (soil sampling)

Anais, Ramona and Gabriella V: <https://flipgrid.com/s/1PDtrxy7NBxo>

PARTICIPATION AWARD: Gaspar Silva Mendes for participation in the weekly quizzes

“THE ACTUAL GOOD ONE” (Aparna Padinjare, Kaleb-Wolf De Melo Torres and Megan Summer) They won a prize for their water turbine design. <https://flipgrid.com/s/siCo2igBxfRa>

A newsletter about this event has been written and posted on the EMSB website by the Communication Department.

The newsletter can be found at: <https://www.emsb.qc.ca/emsb/articles/gifted-exceptional-learners-enrichment-programs-mark-a-successful-academic-year>

Recommendations for 2022-2023

- School administration should communicate any conflict in scheduling in advance so alternate plans can be made
- There is a need for a dedicated room with smart board and audio system
- Limit group size to 8 students
- Communicating directly with the parents through a weekly email
- Select students who can work independently and who are excited to learn and participate – some students were not engaged and seemed to simply be enjoying their time out of the classroom. These students were disrupting those who were participating well.
- Plan a field trip to the Planetarium / Insectarium / Biodome / Cosmodome / Science Center

Caribou Cup: Mathematics (Six contests: Oct 2021-May 2022)

Caribou Cup is an international online math contest, focused on complex problem solving and mathematically reasoning. It contains interactive questions and feature mathematical puzzles rather than strictly knowledge-based questions, it comes with results and statistics available on the evening after the contest, it provides 250 video solutions to selected questions and offers interactive practice access to contests from previous years and detailed written solutions. Its cost of 320.00 CAD--entailing of unlimited School wide access codes--was covered for all selected participants by the Ministry Mesure 15027 (Gifted and Exceptional Learners). It is normally held six times over the school year, typically over 2 days in October, November, January, February, April, and May. **A total of 14** mathematically talented students, (sec 1 from Mr. Bakopanos Photini’s class) joined this competition in October 2021. Their achievements (world-wide rankings) are included in the table below:

NAME	GRADE	World RANKING
Gaspar SILVA MENDES	Sec 1 Total participating students: Worldwide: 23, 059	3,525th <16%
Gabriella WAHBA		6,215th <27%
Liam Bredèche		8,086th <36%
Justin FRAKE		9,231st <41%
Massimo ORLANDO		9,231st <41%
Beniamino SICOLI		10,073rd <44%
Jakob DELAND		10,073rd <44%
Ammaar BILAND		10,554th <46%
Stavro PRODROMOU		11,894th <52%
Elina MARTINI		13,974th <61%
Luca RANIERI		18,725th <82%
Marco IADISERNIA		19,142nd <84%
Nour BASSAM		19,901st <87%
Angelo FORLINI		20,998th <92%

Plans for 2022-2023

If budget allows (to hire a coach), the goal is to extend the international Caribou Cup into an enrichment program offered to mathematically talented students on a weekly basis and facilitated by a mentor. The weekly sessions will include mathematical challenges, interactive math questions and puzzles aligned with the requirements of the Caribou Cup as well as Complex Mathematical Explorations designed by National Council of Teachers of Mathematics (NCTM, VA in collaboration with Dr. Renzulli, J. at Univ of Connecticut).

Individual Enrichment Programs (November 2021-June 2022)

Over the course of the school year two sec 5 students embarked on an independent enrichment project as an alternative enrichment program.

Daniel Bouchard was referred to Dr. Birlean by Ms. Vanessa Zappitelli, the Guidance Counsellor at VMC because of his exceptional academic strengths and exemplary work ethics, decision supported by Ms. Cristiano and his teachers.

August Di Liello was directed to Dr. Birlean's attention by Ms. Cristiano and Ms. Romeo, the Spec Ed Technician at VMC, as the student voiced his interest to pursue an independent project in Arts. Since the student completed the required math curriculum for high school at the end of Sec 4, he was granted permission to pursue this independent project under the guidance of Mr. Sand, a graduate student and instructor in the Faculty of Arts at Concordia University.

The enrichment and/or acceleration activities were overseen by Dr. Birlean in collaboration with the school team to ensure that students met their planned objectives and progressed accordingly in their knowledge and skills development.

This learning process was concluded with a Knowledge Fair session in June, in which participating students from the entire school board were invited to share their learning products and reflect on the personal learning journey.

Daniel Bouchard, Sec 5 (mentored by Dr. Birlean)

Daniel is an impressive young man, whose interest in aviation has been fueled by his enriched experience as Sergeant and Instructor in the Royal Canadian Air Cadets program. In addition, Daniel has several years of experience with robotics, having competed internationally on two occasions. In his project Daniel married the two personal passions by designing and creating a drone with autonomous capabilities while also recording his learning process.

Product Title: Design and Creation of a drone with autonomous capabilities inspired by the Chinook CH-47 helicopter

During the first trimester, Daniel audited a free online course in Aerial Robotics at the University of Pennsylvania and used the material and resources from the course to inform his literature review paper. From January to May, Daniel focused on design and creation of his drone while

testing it multiple times throughout this process. Daniel created a slideshow for his final presentation and presented his work at the EMSB knowledge fair. He was awarded a 35CAD Indigo gift card for his excellent engagement in the program.

Daniel's experience with the construction of the drone prototype under Dr. Birlean's guidance led to the award of the *Gestio Luciano Salvatore Engineering Scholarship* from Marianopolis, valued at \$1,500. The *Gestio Luciano Salvatore Engineering Scholarship* is a new scholarship created by a firm that undertook the renovation of the school in prior years and Daniel is the first recipient of the award. Daniel's future goal is to promote the drone from the status of prototype to that of a (more) refined product.

August Di Liello, Sec 5 (mentored by Mick Sand, Concordia Univ)

Project Title: Category Other is a Creative Exploration about the experience and emotions of youth, part of the LGBTQ community within a school setting.

The goal of this independent study was to provide the student with the opportunity to explore his creativity in a reflexive manner and to produce a body of work with an intention.

The project unfolded as a three-step process:

Stage 1 – Proposal: Due April 6th

The student was to begin by defining for the instructor what was it they intend to work on, describing both the formal and theoretical parameters for the work (i.e., what will the work look like and why does the student want to pursue this project.) There was no imposed medium, the student was free and encouraged to explore and engage with whatever media he deems fit for his work.

Stage 2 – Work: Due June 8th*

The student will then proceed by developing in parallel a body of creative work and an accompanying reflective project statement (of between 500 to 750 words) describing the intention behind the finished creative project. The student was expected to manage his own time, devoting certain schedule blocks to creative work and certain schedule blocks to the reflective component of the project. The instructor may elect to encourage the student to pay closer attention to one element over the other should he feel that one part of the project is stagnating or requires more attention. The student was expected to show progress on the project at each weekly meeting; progress may take the form of a new creative work, new creative exploration, or advancement in the written component of the work.

As viewing art is an important aspect of a professional creative practice, the student and the instructor attended the contemporary art galleries throughout the city to expose the student to a diverse range of creative practices and further stimulate curiosity in diverse forms of art.

Stage 3 – Presentation: Due June 15th*

The student presented his work at the School Board Knowledge Fair organized by Dr. Birlean.

Future Problem-Solving Program International (FPSPI)



FPSPI is a dynamic international program involving thousands of students annually from around the world. Developed in 1974 by creativity pioneer Dr. E. Paul Torrance, Future Problem Solving (FPS) provides

competitive and non-competitive components for today's curriculum via a six-step model which teaches critical and creative thinking, problem solving, and decision making. FPS can be used as part of classroom curriculum, an extracurricular activity, by individuals or clubs. Student work is submitted electronically, and evaluation and feedback are provided from FPSPI. Qualified students earn invitations to participate in the annual International Conference (taking place in June 2023 at University of Massachusetts- Amherst).

Four thinking skills will be taught and modeled systematically to student participants engaged in the program are the corner stones of the Future Problem-Solving process

- **Creativity** – Problem solving situations are set in the future to encourage inventive thinking. Students explore future possibility from the present
- **Communication** – Clear and articulate communication is developed while working with a team and ideas are presented in written and verbal modes.
- **Critical Thinking** – Students use analysis to gain an understanding of global issues and to comprehend significant aspects of complex situations
- **Collaboration** – Students work together while learning and applying problem solving skills. Teamwork is nurtured as students advance through challenging and exciting situations.

The specific FPSI Components that we intend to implement at VMC include:

GLOBAL ISSUES PROBLEM SOLVING (GIPS):

Is intended as a school wide ECA. Students will join this program as an after-school club meeting once a week, employing the Six-Step Process to respond to a Future Scene provided for each topic. This program enables students to think creatively and explore collaboratively a selected inquiry topic from a diverse range of contemporary global topics. The 2022- 23 topics are:

- E-Waste
- Digital Realities
- Robotic Workforce
- Throw Away Society

Participants research a chosen topic and apply FPSPI's six-step problem solving process to resolve the Future Scene -- a hypothetical scenario set 20-30 years in the future. Culminating in a detailed Action Plan, entries are authentically assessed and scored by trained evaluators. Students invited to the international conference will also complete booklets while on-site. This program

can be entered as **teams of 3 to 4 students** or **individuals**, taught by a coach (i.e., the school librarian in collaboration with a mentor funded by the Gifted and Talented Measure at EMSB).

The last two components will be infused in the ELA curriculum, specifically in Mr. Kelly's classes (sec 1 ELA) under the guidance of a coach (supported by the Measure 15027) and also supported by the VMC library technician.

SCENARIO PERFORMANCE (SCP): Students develop and perform an oral story of up to 5 minutes, based on their future projection of one of the annual topics.

SCENARIO WRITING (SW): Student authors write an original 1500-word piece of fiction projecting their choice of one annual topic into the future.

Report Completed

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