



REPORT TO

STUDENT ACHIEVEMENT AND WELL BEING, CATHOLIC EDUCATION AND HUMAN RESOURCES COMMITTEE

ONTARIO CENTRES OF EXCELLENCE ADVANCING EDUCATION PROJECT

You will be enriched in every way for your great generosity, which will produce thanksgiving to God through us. (2 Corinthians 9:11)

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INFORMATION REPORT

Vision:

At Toronto Catholic we transform the world through witness, faith, innovation and action.

Mission:

The Toronto Catholic District School Board is an inclusive learning community rooted in the love of Christ. We educate students to grow in grace and knowledge and to lead lives of faith, hope and charity



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A. EXECUTIVE SUMMARY

This report provides information about a project that the TCDSB has undertaken in partnership with Humber College and Vretta Inc. designed to incorporate innovation/technology for improved learning in mathematics through the use of a diagnostic and remediation application. The partners as listed above were successful in attaining a \$250 000 grant to implement a pilot project.

B. PURPOSE

1. This report outlines a mathematics initiative to improve learning in mathematics, undertaken by Humber College, in partnership with TCDSB and Vretta Inc., and funded through a \$250 000 grant from the AdvancingEducation program through the Ontario Centres of Excellence.
2. The long term plan for the OCE AdvancingEducation program is nation-wide implementation.

C. BACKGROUND

1. In the fall of 2015, in recognition of the need to improve learning in mathematics (particularly in Gr 9 and 10 applied level), we began to explore the online, digitally-rich resources of the Ontario College Math Test (OCMT), piloted by Humber College (eventually to be used by all Ontario Colleges) in conjunction with Vretta Inc. This software is used to assess whether the college applicants have acquired all the necessary mathematics skills typically attained from Grade 6 to Gr 12. Although this software was developed to ensure the success of college applicants, it has the potential for to be used as a diagnostic and remediation tool, for students from Gr 6 to 12. This tool can be adapted for grade specific needs.
2. In various meetings, throughout the fall of 2015 and into the early winter of 2016, with Humber College and Vretta Inc., TCDSB explored how this tool could be incorporated to complement the TCDSB Board Learning and Improvement Plan for numeracy.
3. Given financial challenges in our board, staff could not proceed beyond the exploration stage in the absence of an identified funding source for the acquisition, development and required professional learning associated with the implementation of the resource.
4. Early in 2016, Vretta Inc. attended a session hosted by the Ontario Centres of Excellence. They received information about the AdvancingEducation Program and the application process for applying for a grant.
5. The AdvancingEducation Program enables education institutions to partner

with an Ontario based company, in order to develop innovation/technology based solutions to address challenges and opportunities in Education with the potential for nation-wide implementation. Successful applicants receive \$250 000 to fund a pilot for the introduction of the innovation/technology in schools and to collect related student achievement data related to the efficacy of the implementation of the tool.

6. In April 2016, Humber College submitted an application on behalf of all three partners (Humber College, TCDSB and Vretta Inc.). As part of the application process, staff were required to submit a proposal for budget and implementation.
7. In June 2016, staff were notified that the Board was successful in round one of the application process and that we were now eligible to proceed to the second round.
8. On July 14, 2016, Humber, TCDSB and Vretta presented to an external review committee for 5 minutes and participated in an eight-minute Question and Answer session, as part of the round two vetting process to determine successful project recipients.
9. On July 27, 2016, staff were informed that our AdvancingEducation Project was accepted to receive the \$250 000 grant.
10. Why this project?: “The TCDSB recognizes that the weak results in mathematics are not unique to our board, and that a provincial solution is needed to ensure that students can achieve their full potential in the area of math.

The TCDSB will actively explore ways to improve achievement in math for the 21st century learner. Solutions will include opportunities for students to engage in interactive learning experiences, and will enable differentiated instruction and personalized learning through student and teacher use of web-based, self-directed learning. It is intended that this solution will ultimately increase student engagement and achievement in mathematics, and reduce the numeracy gap at the earliest possible stage. Finally, it is expected that this approach will raise students’ level of confidence, preparing them to succeed in the future.(From the AdvancingEducation application package)

11. Overview of the Ontario College Mathematics Test: “The OCMT is a cloud-based, self-directed programme that contains psychometrically validated math assessment items, interactive remediation modules and carefully tailored test designs. It has been developed to assess the math proficiency level of students and to upgrade their areas of weaknesses. It provides students with a personalized learning environment which allows them to interact with research-backed, engaging resources that are tailored to their needs and aligned to the learning expectations of Grade 9 Applied

Mathematics. The OCMT provides teachers with the ability to monitor their students' progress through actionable data, via real-time dashboards. It also provides them with the opportunity to significantly enhance their teaching practices to increase the engagement and motivational levels of their students.” (From the Advancing Education application package)

12. Through a three step process, the OCMT will aim to improve numeracy:
 - Students will complete a 70-item diagnostic assessment covering a broad range of topics.
 - Students will be given a list of areas of strengths and weaknesses and they will be provided with a series of media-rich, mastery-based remedial modules.
 - After upgrading their skills using the remedial modules, students will be given a 30-item post-assessment.
 - Teachers will have access to their students' data.
13. The OCMT is available in both English and French and it is also compliant with the Accessibility for Ontarians with Disabilities Act (AODA).
14. In the fall of 2016, staff will consult with TSU and TECT about the implementation of this project.
15. The program will be phased in over two years. Implementation will begin in a limited number of secondary schools. The remaining secondary schools and all Gr 6 to 8 classes will be added in phases.
16. This project will support the Ontario Renewed Mathematics Strategy.

D. METRICS AND ACCOUNTABILITY

1. Staff will report back to the Ontario Centres of Excellence as per the grant requirements.
2. Staff will work with the TCDSB Research Department to develop methodologies to assess the efficacy of the program, in collaboration with Humber College and Vretta Inc.
3. As the content of the OCMT is aligned with the learning expectations of Grade 9 Applied Mathematics, it is anticipated that the positive impact of this intervention will also be assessed through a year-over-year analysis of EQAO results mathematics.

E. CONCLUDING STATEMENT

This report is for the consideration of the Board.