CATHOLIC DISTRICT SCHOOL BOARD OF EASTERN ONTARIO
Board Meeting Highlights
From the meeting held January 21, 2020

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CDSBEO Focusing on the Fundamentals of Math Strategy

Through the funding and guidance of the Ministry of Education's Focusing on the Fundamentals of Math Strategy, the CDSBEO is strengthening math teaching and fostering learning environments that will lead to improved academic performance for all students, including students with special education needs.

Superintendent of School Effectiveness, Brent Bovaird, presented information to the Board on the strategy and how it is being implemented in CDSBEO schools. The strategy involves a cycle of data collection and assessments, professional development for educators, monitoring, and in-school visits by Board Math Consultants.

Professional development opportunities were delivered in a new format this school year, with one teacher from each grade level at all CDSBEO elementary schools in attendance. New strategies were presented including ways to incorporate simple math activities throughout the day, and practical approaches to learning. Teachers received appropriate divisional content, grade level math games and hands-on materials for practical classroom application. Board Math Consultants have now begun visiting schools to support administrators and teachers with the content delivered in the PD sessions.

Assessments for student learning include Collaborative Analysis of Student Learning (CASL) which are based on EQAO assessments.

"The first three CASLs are designed to determine if there are gaps in students' learning as we prepare grade 3 and 6 students for EQAO," explained Bovaird. "The fourth CASL is for all grade 1 to 8 students. We will use this as benchmark data to help teachers determine gaps in learning and address these gaps quickly before they grow."

For intermediate math, the PD focus was on academic pathways, including the Grade 9 Bridge Course and strategies to successfully transition students to high school math.

"The Bridge course focuses on improving students' personal learning strategies and aims to enhance their abilities as effective learners," noted Bovaird. "The course helps students build confidence and is specifically designed to help learners who may be at risk of not being successful in the Grade 9 Applied Math Program."

The Bridge course was collaboratively designed by grade 7, 8, and 9 teachers and aims to boost success for students entering Grade 9 Applied Math.

The school principal is one of the most critical figures for improving student achievement.

"We have done a lot of PD with our principals as well, to encourage them to monitor pedagogical practices and ensure the tools provided to teachers are being used in classrooms, and also to monitor how students are embracing the concepts."

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Five CDSBEO schools requiring extra support have received additional funding this school year for a school-based facilitator, with the purpose of supporting math teaching and learning with teachers and principals.

CDSBEO 21st Century Learning

CDSBEO students and teachers have worked collaboratively using technology to personalize learning, increase productivity, and enhance student success. The 21st Century classroom continues to transform in response to the individual needs of learners. Teachers are better prepared to respond, and schools are finding new and exciting ways to incorporate emerging technologies to create purposeful and meaningful learning experiences.

Superintendent of School Effectiveness, Brent Bovaird, presented details of new and innovative ways that students are using technology to expand learning opportunities. Technology helps to engage, accelerate, and consolidate learning experiences for all students while creating opportunities for creative thinking, innovation, and problem solving.

Four major categories for 21st century learning: blended learning, digital learning tools, Microsoft apps and STEM education.

"Currently, four categories are used to help distinguish what experiences are available to students and teachers," explained Bovaird. "The Virtual Learning Environment, known in the classroom as Blended Learning, Science Technology Engineering and Mathematical Education, also known as STEM, Microsoft apps and learning tools, and also other digital learning resources."

A starting point for teachers using technology is through a Virtual Learning Environment (VLE). The VLE is a suite of tools designed to help teachers and students take advantage of numerous digital resources. Teachers have access to both Brightspace (a Ministry of Education licensed program), as well as Microsoft Teams. Both products allow teachers to share information with students through an online platform. The tools provide opportunities for discussion, as well as the ability for students to access teacher created materials or submit assignments. Teachers can track student achievement, and also engage with parents through classroom announcements, samples of student work and feedback, and reminders about upcoming assignments and events.

"The VLE can also be used to connect to other digital learning resources, mostly provided by the Ministry of Education," added Bovaird. "These include video and book libraries, and hundreds of K-12 interactive resources designed and created by Ontario educators at no cost."

Microsoft apps and learning tools provide access to experiences that bring learning to life. These apps and tools are used by professional educators and reflect the fundamental shift in the way students interact and share, allowing learning to be enhanced in a collaborative way.

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"Minecraft is one Microsoft app which is available to students," noted Bovaird. "It is similar to Lego, where students place blocks consisting of items like wood, stone, bricks, dirt and other countless raw materials to create, but in a 3D world. Students can also visualize, deconstruct and reconstruct monuments, houses, villages, ecosystems, and working prototypes with switches, sensors, and electricity. This program drastically changes student engagement. Minecraft naturally promotes creativity, collaboration, and problem-solving for students."

STEM education is broken into four subsections: growth mindset, programming and coding, robotics and virtual reality.

"One of the most important aspects of STEM Education is embracing a growth mindset because things will not always work on the first, second or twentieth attempt. To fail is positive and we like to use it as an acronym that stands for First Attempt in Learning. There is a quote by Thomas Edison that is often used, *I have not failed 10,000 times - I've successfully found 10,000 ways that will not work*."

Coding, which is the same as computer programming, teaches students how computers and devices work, while Robotics involves the use of programming to control robotic devices. Students can build, code and test out their devices. Often, the code must be revised many times to attain a successful outcome.

"Thank you, Superintendent Bovaird, for your insight on how CDSBEO classrooms are truly 21st century learning environments," concluded Chair Lalonde.

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