Huron-Superior Catholic District School Board: 2014 - 2015

Project Title	**Job-embedded professional learning for grades K to 8; Innovative technology-enabled teaching and learning in Mathematics**
Description	Our project focused on technology-enabled teaching and learning for students in Kindergarten to Grade 8, with a focus on Numeracy/Mathematics. Aligned with the purchase of iPads, we provided professional learning opportunities through a job-embedded model. Teachers were provided training, support and in-service on the use of the iPads to develop authentic and deep learning tasks. Three Technology and Learning Special Assignment Teachers were released from March to June, to provide the job-embedded training and support for our elementary classroom teachers with a focus on Numeracy/Mathematics. The roles and responsibilities for the three Special Assignment Teachers included; co-develop the deep learning task(s) with the classroom teachers, teach the lesson with the classroom and debrief with the classroom teacher on the impact on student learning. The use of technology was to provide deep learning tasks to our students, otherwise not available without the technology. We were also looking to provide a means to facilitate teacher-to-teacher sharing and collaboration of the deep learning tasks and the classroom experiences. To facilitate the sharing and collaboration, the Special Assignment Teachers developed a web blog with sample lessons used in their work with classroom teachers, reflections and artifacts from their classroom experiences. Furthermore, the Special Assignment Teachers have contributed to our Board Mathematics Action Plan, embedding technology-enabled teaching and learning deep learning tasks and activities.
Context	*Number of students*: 2300 *Number of teachers*: 100 *Number of schools*: 19 *Grades/Program*: Grades K-8 Mathematics/Numeracy
Impact on Students	Beliefs are shifting towards the idea that by using the right technology, combined with a sound pedagogical approach, teaching and learning can be more engaging for our students resulting in improvements in student achievement. In the post in-service teacher survey, 67% felt that the quality of student work improved during the job-embedded technology-enabled deep learning tasks. Also, evidence of increased student engagement was apparent as students once reluctant to engage in mathematics conversation and tasks, are now sharing their thinking and becoming risk-takers. Data supporting this comes from the post in-service teacher survey, where 77% of responding teachers felt that students who were previously reluctant participants in Mathematics became more engaged and 79% have noticed a positive change to students' approach to learning Mathematics. According to the results from the post in-service teacher survey, 86% of respondents believe that students can communicate and demonstrate their understanding using a variety of technological tools. This scaling up could have profound effects in our rural

	district schools where classrooms are composed of multiple split grades (i.e. 5/6/7/8). Technology can enable students to connect mathematics to the world around them. By providing students with real world, authentic tasks we can are providing our students with a deeper level of learning. Technology enables student collaboration (digital problem-solving and sharing of ideas) across a classroom or a school board in real time. Peer-to-peer feedback in a digital bansho helps inform the language of feedback for the teacher to student-friendly understanding. According to the post in-service teacher survey, 67% of respondents believe that students are now using technology to share their ideas and thoughts with the teacher.
Impact on Instruction	There has been an attitudinal shift among many stakeholders within our board (i.e. Board Administration, School Administrators, Teacher and Students) on the effectiveness of technology in the classroom. In our post in-service teacher survey, 91% of responding teachers report that they now feel that technology (ie: laptop computers and tablets) can improve student achievement and performance, compared to 78% in the pre in-service teacher survey. Through this project we have also noticed a change in teacher's responses to allowing students to bring in their own devices; our board has a BYOD policy. The results from the pre in-service survey indicated 58% of our elementary teachers sampled were reluctance to allowing students to bring their own devices to class. A shift in the attitudes and beliefs towards BYOD was evident as only 27% of sampled teachers were reluctant to allow their students to bring in their own device. Results from the post in-service teacher survey also indicated that 86% of responding teachers say they are more comfortable using various devices (ie: laptop computers, tablets) in their classroom and 74% say they now use a variety of apps, online programs and software on a regular basis in their classroom (Question 5). According to the results from the pre in-service teacher survey, 55% of respondents were using variety of apps, online programs and software on a regular basis in their classrooms, compared. This increased to 78% of the respondents, after the Special Assignment Teacher support and training, according to the post in-service teacher survey.
Impact on System	According to the post in-service teacher survey, over 80% of responding teachers reported having shared and collaborated new teaching practices and strategies involving technology with other teachers, after receiving the support of the Special Assignment Teachers. Teachers are requesting online collaborative tools (i.e. portals within our Learning Management System, Google Apps For Education accounts); to be used for teacher-teacher sharing and collaboration and also teacher-student interactions. More than half of teachers responding to the post in-service survey are more comfortable sharing and collaborating new teaching practices and strategies involving technology with other teachers at system-wide sessions.

NOTE: Information in the summary is taken directly from the data contained in the final project report.