Near North District School Board: 2014 - 2015

Project Title	**Transformations: An Exploration of Pedagogical Change and Innovation in Technology-Enabled Classrooms**
Description	The Research project is closely aligned with the Near North: 21 Vision – including the development, implementation and scaling-up of pedagogically-driven and technology-enabled practices. Specifically, the NNDSB *TLF 21st Century Innovation Research Initiative* has established a goal to engage teachers in collaborative inquiry focused on teacher-student learning partnerships, assessment practices that reflect deep learning pedagogy and learning partnerships among educators, enabled by technology – to improve conditions for learning.
	Participating teachers have contributed to the development and implementation of capacity building resources, online professional learning communities and research instruments including the "Evolution of Thought and Practice" (ETAP) survey (a systemic measure of teacher capacity and practice) and the Quartet Synthesis (an in depth analysis of digitally-enabled classroom activities). Our research project enables teachers to explore the conditions required to optimize learning in a digitally enabled classroom, drawing a focus on the learning environment, pedagogy, technology and learning partnerships as they contribute to the transformation of instructional and assessment practices.
Context	*Number of students*: n/a
	Number of teachers: 204
	Number of schools: 41
	Grades/Program: Grades K-12
Impact on Students	This summary report highlights only a limited number of findings from the research.
	Leveraging Digital:
	NNDSB classrooms are increasingly "technology-enabled". 2015 ETAP data resulted in 53% of teachers responding their students K-12 are using personally owned devices frequently - weekly or daily. This would suggest that enhancements to "open" WiFi access and increased bandwidth are enabling students to use personally owned devices to support learning. 86% of teachers responded that their students use school provided devices/technology to support learning always or frequently - weekly or daily - suggesting that investments in technology for learning (instructional devices) are being used frequently. Cloud services and 'take-home' licenses for Office 365 apps may have empowered a greater number of students to leverage personally owned devices to support learning. As expected, students in the intermediate and senior division are most likely to have access to personally owned technology. 81% of grade 9-12 teachers observed students using personally owned devices to support learning on a "weekly" or "daily" basis.
	Teachers in the primary division enable students to access school provided technology - almost exclusively. Likewise, teachers of grades 4-8 are also very reliant on board provided technology. A significant majority of teachers in the primary and junior

divisions enable students to leverage school provided technology at a "daily" or "weekly" frequency.

Developing 21st Century Fluencies/Competencies:

Collaboration: Teachers have observed a significant increase in the number of students accessing online "cloud" tools to work collaboratively – locally and regionally. In 2012, 82% of k-12 teachers acknowledged that students "never" collaborated using online tools – that number was reduced to just 24% three years later (ETAP 2015).

Communication: Teachers have observed email as a significant tool for students in grade 9-12. From 2012 – 2015, NNDSB teachers have noted an 18% increase in the number of k-12 students using email on a monthly, weekly and/or daily basis.

Critical Thinking: Board investments in online resources such as Dreambox Math and Razkids has resulted in more primary and junior classrooms having access. Teachers have also indicated that Dreambox Math tools have increased student engagement and enthusiasm for learning. Teachers have also suggested "gamification" of learning may also be attributed to this skill development software.

Although 2012-2015 has not seen a significant increase in the number of teachers who observe students conducting research using web-based search engines and directories (ETAP 2015), the majority of students in grades 4-12 do so weekly or daily. 82% of students in grade 4-8 conduct research using the internet weekly or daily.

Creativity: From 2012 to 2015 teachers have observed a large increase in the number of students that are creating original digital content to demonstrate what they have learned. The number of students who have "never" created original digital content to demonstrate what they have learned has fallen from 74% in 2012 to 26% in 2015.

Learning Partnerships:

Most of the contributing teachers demonstrated a comfort level with student led inquiry and the creation of transparent learning goals and expectation in partnership with students. However, the QS data also suggested that teachers have not yet implemented activities designed to engage in partnerships across schools or beyond our community. Furthermore, teachers indicated that they are either developing awareness or have an emerging practice related to using collaborative processes, tools and measures to engage families and communicate student progress.

Tech Squad is a credit bearing experience that engages students as leaders, providing capacity building support for teachers. *Tech Squad* students work across classrooms providing support to teachers and students as they integrate technology for learning.

Impact on Instruction	The Technology for Teachers (T4T) initiative enables teachers to choose a device (either, iPad, Windows laptop or MacBook) for personal and instructional use, and engage in ongoing professional learning activities at the classroom, school and district level. In each of the last three years, annual cohorts representing 25% of NNDSB teachers have participated in the T4T program. *Creating Conditions – Teacher Learning Partnerships:* Classroom: The eTech Coach has been equipped with the hardware, resources and time required to support technology related initiatives and job-embedded teacher capacity building at the classroom level. eTech coaches have been the primary source of teacher support related

	to technology-enabled learning – 81% of teachers have benefited from the eTech role. (ETAP 2015)

School: Revisions to the School Technology Planning Framework have aligned 21C more closely with the School Improvement Planning (SIP) process – *now completed online in the Office 365 Research and Innovation portal*. Further, schools have been asked to complete their school improvement plans in May and June of 2015. This change will enable central resources to be allocated more efficiently and effectively in September, including the deployment of the "Technology for Learning" (instructional technology) requests.

Pedagogical Practice:

The QS data suggests that teachers are moving toward coherent, intentional, on-going technology-enabled practices. Teachers are actively engaged in designing learning tasks that engage students in deep thinking and foster 21st century competencies.

Anecdotal reflections about pedagogical practice include evidence of authentic contexts, and meaningful student voice and choice.

Leveraging Digital:

Teachers are using technology to engage and motivate students. Furthermore, teachers allowing students to select from a range of technologies in order to solve authentic real-world problems. |
| **Impact on System** | The 2015 Innovation and Research Project has used the ETAP and QS to identify changes in the conditions for learning, (learning environments, learning partnerships, pedagogical practices and leveraging digital).

- Sustained, responsive, meaningful professional learning, within and across schools.

- Implementation of a new school/student centric technology planning processes.

- ETAP and QS data will continue to be used by system and school leaders to inform the SIP and SEF process.

- The QS instrument will be available to schools teams as a means to facilitate collaborative inquiry/professional learning.

- The Innovation and Research initiative has resulted in our system having a deeper understanding of teacher learning preferences and learning partnerships.

Ongoing efforts to promote the awareness of the NN:21 Vision appear to resulting in an increase in the number of teachers that agree the district has a clearly articulated vision that is shared among schools and the community.

The ETAP 2015 data also indicated a significant improvement in the number of teachers that expressed positive opinions related to the sufficiency of school technology for student use. Infrastructure will continue to be a priority moving forward as more devices enter the system (both student and board owned). Enhancements to bandwidth and WiFi will be followed by improvements to the network switches and cables during the July and August 2015. |

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