Making a Difference for Ontario's Students

Real Change in Learning and Achievement through the Technology and Learning Fund

TO: ONTARIO DIRECTORS OF EDUCATION

FROM: Frank Kelly

DATE: August 18, 2016

RE: **TLF Success Stories from Students, Teachers and Boards**

It is sometimes difficult to fully recognize – conclusively – the impact of technology in Ontario's classrooms.

One of the most effective means of documenting the real change that is occurring across the province is by hearing from the teachers and students actually using online resources, social media, iPads (and more) to create more meaningful learning opportunities and engagement. This newsletter will offer just a few of their many success stories. Notably, a number of boards delivered their reports in the form of video, blogs, Twitter hashtags and other digital media – a good indication of how boards are moving away from just text to a new and more interesting format that reflects the technology they incorporate into their classrooms each school day.

> "This (using social media to promote student writing) was a great idea to get reluctant writers writing. The students were all engaged in the activity, some of them on their phones and others on the desktops. They started with small posts, but I was able to get them to expand their ideas through feedback to develop a full explanation backed up with details."
>
> – Grade 9 teacher

The March 2016 update on the Technology and Learning Fund (TLF) highlighted the transformations being carried out by boards as they work towards increasing student achievement and developing 21st Century learners and innovators in classrooms throughout the province.

That same report discussed how the TLF is enabling professional learning opportunities to help educators transform schools into engaging and technology-supported environments focused on deep learning and innovation. As one board said, "when formal and informal leaders in a school come to new understandings about teaching and learning, changes in pedagogy and student learning occur."

For many, the individual board reports included in newsletter number 3 – reflecting just a small sample of the positive changes taking place in student learning and engagement, attendance, achievement levels, and acquisition of 21st Century global competencies – were extremely illuminating. In their own words, boards described how their schools and classrooms are moving toward a new culture of deeper learning through the use of technology and innovation.

But what about the teachers and students themselves? What are their experiences and personal success stories as their schools and classrooms are transformed by TLF-funded resources such as digital technology, learning tools, and instructional technology advisers and coaches? As you will read, see and hear, their testimonies as to the real and positive gains being made in Ontario's schools form a compelling narrative about technology-enabled learning, teacher growth, and student and teacher "comfort level" with technology – and how these initiatives are producing both greater teaching and learning of global, 21st Century skills and increased achievement for students.

The TLF: Real and Positive Gains

Building better skills for students, bringing the world to classrooms – these and other ongoing changes to the landscape of technology-enabled learning in Ontario's schools trace their roots back to 2011. That's when the Ministry of Education and the Council of Ontario Directors of Education (CODE), through the ministry's 21st Century Innovation Research Initiative, launched a project to support Ontario schools as they began changing teaching practice and creating engagement for technology-enabled learning and increased achievement for students throughout the province.

Building on the innovations achieved since its introduction, in 2014-15 the TLF began providing funds over a three-year period for the acquisition of digital tools and resources and to support the provision of related professional learning opportunities for educators and school and board leaders.

The Technology and Learning Fund triggered positive change almost immediately. By September of last year, Ontario was becoming recognized as an innovative leader in technology and learning, with boards clearly scaling up and systematizing their use of technology. "What were once individual school initiatives," the CODE newsletter reported last fall, "have now expanded to include entire school boards."

The aim of the Technology and Learning Fund was, and is, to shift educational objectives and practices in Ontario and prepare students to succeed in a complex, digital world. With the support provided through the TLF, the province's publicly-funded schools are continuing to improve student achievement by integrating technology into learning and teacher instruction. As one grade 10 Alternative Education teacher put it, "this technology is a game changer."

The stories highlighted in this newsletter (and in previous editions) reflect the successes of Ontario's schools in using technology to support student achievement and change teaching practice. To get the full scope of the TLF's progress in boards throughout the province, be sure to catch up on past newsletters on the **CODE website**.

TLF Success Stories from Ontario's Students and Teachers

Here are first-hand stories about students becoming better learners, and teachers better educators. They represent just a few examples of the very real changes taking place in our schools today through the TLF.

Please note that the following excerpts were selected from board contributions which can be viewed in their entirety by accessing the links provided in this newsletter.

Success Stories: *Increased Student Achievement and Performance*

"Currently I'm working on a (computer) game . . . everybody's learned (the program) so much, **I think it's a really good learning experience. I think that these computers have really changed the way the class works almost one hundred per cent in a positive way.***"*

– Grade 6 student, Waterloo Catholic DSB

"A lot of the projects that we're doing now are like math . . . finding area and perimeter. I just find it really easy to do it on a computer. It's a lot easier."

– Grade 6 student, Waterloo Catholic DSB

"I find that I do well in school and this was all very new and fun to me, but challenging as well. STEAM helped me with my problem solving skills and my growth mindset . . . I found that STEAM made problem solving fun because it let us solve different problems through our hands and gave us various challenges to solve as we were still doing curriculum related school work."

– Grade 8 student, Simcoe County DSB

"The project that I'm working on is to help students develop the formula for area for triangles and parallelograms." Students perform coding and create games, and a trivia game is played on computers for quick assessments of students' progress. **Noteworthy is a 33 per cent improvement since the students first took the quiz to how they performed at the end of the unit.**

– Grade 6 teacher, Waterloo Catholic DSB

« J'aime le Bloc-notes OneNote, car je ne suis pas une personne organisée et tous les documents se retrouvent à un endroit (cartable virtuel). Je n'ai pas besoin d'apporter mes cahiers, tout est là. Si je perds une feuille, je suis en mesure d'aller la chercher dans le cartable virtuel. »

– Élève de 8ᵉ année, CSC Franco-Nord

"My understanding of technology has been transferred to my students in many different forms. **The CODE project has provided the opportunity for students to access technology that raises student achievement at or above expectations** . . . (at) Sagonaska we are able to create fluent users of technology that allow students to access curriculum at a new level, which the CODE TLF project plays a major part of."

– Grade 8 Teacher, Provincial Schools

"This technology (online resources and assessments) is a game changer for alternative education students, it allows them to work at their own pace, it rewards them for their accomplishments. It gives them feedback when they need it and it allows me to work one on one with everyone in the class as needed . . . I love going to my class now, there is near total engagement."

– Grade 10 Alternative Education teacher, Lakehead DSB

"Using technology has allowed (one student) to be more confident in his writing and has also allowed for his oral language skills to develop. By using technology to aid (him) in his writing, I have closed a bit of a gap for him of 'not' being able to complete writing tasks. Another student, by using technology, was able to read his story orally and then play it back to himself as many times as he wanted to help him write out the story."

– Elementary Teacher, Lakehead DSB, on using technology to help with Oral Language skills and struggling writers.

"**Increase in student achievement is the most beneficial result of implementing and providing access to technology that is assistive.** As my learning and understanding of technology increases, it transfers to student learning and understanding."

– Grade 8 Teacher, Provincial Schools

"I learn more because I actually need to finish a lesson and understand it before I move on, even if I'm frustrated. I learn more because the class isn't all listening to the teacher talk, and **I actually get to try it out myself; I find I am more productive***."*

– Student, Dufferin-Peel Catholic DSB

"As a special education teacher I see students who have incredible narratives to tell but simply can't use a paper pencil method to get their stories out. (And for students not proficient with a keyboard) there are some really excellent advantages to also having our students work with effective speech-to-text technology. The students in our special education resource classroom were particularly engaged and excited to use the speech-to-text technology that I have actually used to write this reflection. When asked about using the speech-to-text on Google documents, one of our SERC students said 'It's very easy and I like it very much.'

I think it's also very important to remember that so many of the tools available to us thanks to the 'Technology and Learning' grant will be useful for many of our students but absolutely necessary for others. **There is a large number of students whose capacity to express themselves, tell their stories and show their teachers what they know might hinge on the use of technology***."*

– Special Education Teacher, Dufferin-Peel Catholic DSB

"One student was very disengaged with math in general and rarely did homework. However, he absolutely loved using iPads. Ever since we started using more technology, he would show up more frequently to afterschool help to catch up on work. He now regularly comes weekly to use a computer and do Knowledgehook. When given paper he works super slow. **When given technology, he is a lot quicker and is asking less for my help and guidance***. He came to homework help yesterday, completed 2 missions and then even finished his package (even though it was paper) for the unit in one sitting!"*

– Toronto Catholic DSB

Success Stories: *Increased Participation by Students (and Parents)*

Describing how her class writes adventure narratives, a teacher explains that her students were "not so keen" on writing longer assignments with paper and pencil. Now, they write on their Google accounts. **"Some students who would hardly have any writing done (now) have pages of writing done...I've found the engagement has increased greatly."**

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– Grade 3 teacher, Waterloo Catholic DSB

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"I went on my Google Drive (so) I could show (my writing) to my Mom." Parents can log into their child's Google account and "have access to the students' work at all times."

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– Student, Waterloo Region DSB

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A student with "behaviour issues did not want to do any regular school work." After becoming part of the teacher's TLF program, an amazing transformation took place. "At our Makerspace show he demonstrated the Scratch software (a free programming language and online community where users can create their own interactive stories, games, and animations) and (the game he had created) to the whole school. **I have never seen a student (prouder) of his accomplishment.**"

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– Teacher, Simcoe County DSB

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*« Pour les travaux de groupes, c'est facile de donner de la rétroaction. J'aime donner de la rétroaction, **car ça me permet de travailler plus fort, car je sais que les autres élèves vont évaluer mon travail**. »*

– Élève de 7ᵉ année, CSC Franco-Nord

"We have made great progress with our (robotics). We decided to start the robot kits out in the Learning Center. These kits are very hands-on learning and this type of learning activity is exactly what they needed. They have excelled with it and have now all gotten to the point that they are able to code their robots to make their way through a maze."

– Simcoe County DSB

"My grade 9 math student said, 'Using technology in my math class broadened my learning and made it more enjoyable to stay focused and easier to learn.'"

– Teacher, Dufferin-Peel Catholic DSB

"Rather than using Twitter as mere teacher PD, I have managed to link ¾ of my students' parents to my account and they have direct access to everything that happens within the class each and every day. Gone are the days where a child will have nothing more to say to their parents than 'nothing' when asked about their day at school."

– Teacher, Dufferin-Peel Catholic DSB

Success Stories: *Increased Student Connections with the World*

*"I liked that we got to choose our own topic. On most of our other projects our teachers just give us the topic but on this project, **we actually got to take our passion and try to make an impact on others' lives and change the world. It was really great**."*

– Grade 6 Student, York Region DSB

(Regarding "digital citizenship") – "Because we have this technology…there's so much more we can do now that helps (students) become more aware of the world around them and feel passionate about making a change and making a difference . . . and now they're learning from each other as well . . . and I've been able to learn from my students and say, 'wow, you just taught me how to do that.'"

– Teacher, Waterloo Region DSB

*"Accessing the curriculum (through technology) happens in many different forms . . . the most recent example is a History assignment that covers First Nation, Metis, Inuit and their history within Canada in the early 20th century. **Students were able to connect with an Elder from British Columbia and discuss family, connection, First Nation residential schools and passions**."*

– Grade 8 Teacher, Provincial Schools

*"It was really fulfilling as a teacher to see my students understand that they can actually make a difference in the world. From JK, teachers are always telling students to dream big. Try to accomplish your goals. Reach for the stars. But when are they really given the opportunity to do that? When they are given the opportunity, **we as teachers learn so much about the things that our students are capable of and students learn so much about what they are capable of**."*

– Junior Teacher, York Region DSB

Success Stories: *Increased Opportunities to Change Teacher Practice*

*"This year I did something called STEAM – I got to go to the Push Conference and the Maker Fair, which are both STEAM events. I've only ever had the opportunity to represent my school at sports events and now **I got to travel to Barrie to help my teacher present which was awesome**. We even got to sit in on someone else's presentation about blogging. The Maker Fair was so much fun, I was there from 8 am to 9 pm and loved every minute of it."*

– Grade 8 student, Simcoe County DSB

"This process has allowed me to let students take the lead in their learning. We provide them with the tools so they are able to teach themselves, their peers and even me!"

– Grade 7 teacher, Simcoe County DSB

In terms of her own professional development, one teacher reports that *"I can learn what I choose to learn and bring it right to the classroom that day. The way the board has that set up has been amazing."*

– Grade 6 teacher, Waterloo Catholic DSB

*"Our administration and my colleagues agree that technology use is a huge part of student learning. Technology is so critical to learning that we have incorporated it into our School Improvement Plan. **My colleagues and I continually push and support each other to be better teachers**. For the past three years, I have spent a lot of time learning about technology in the classroom. **As my understanding of technology gets deeper, students' successes with technology increase**."*

– Grade 6/7 teacher, Provincial Schools

An HWDSB teacher views her TLE journey as *"something much more than iPads, apps, and technology, but as a novel and exciting way to support deep and significant learning."* Moreover, **student engagement is now *"off the charts*.***"

– Teacher, Hamilton-Wentworth DSB

*"For my professional development, **I have been a part of an innovative group of teachers who have shown a passion for the use of technology in education** throughout the different divisions (primary, junior, intermediate, senior). This group has been focused on the ideas of 'New Literacies' and how our daily lives in a technologically advanced society are leading towards new forms of communication, which means new learning and understanding . . . educators are now guiding students to understand the context, not just the content. **In order to fully help educate students in this area I have had to unlearn and relearn some of my basic concepts in literacy as well as develop the new skills needed to work in a school system with technology**, which continually changes as technology changes."*

– Grade 8 Teacher, Avon Maitland DSB

*"**This structure definitely gives the teacher more time to help students in class because they don't spend the whole class talking at the front**. The only problem is, the lessons are structured so well I barely need assistance."*

– Student, Dufferin-Peel Catholic DSB
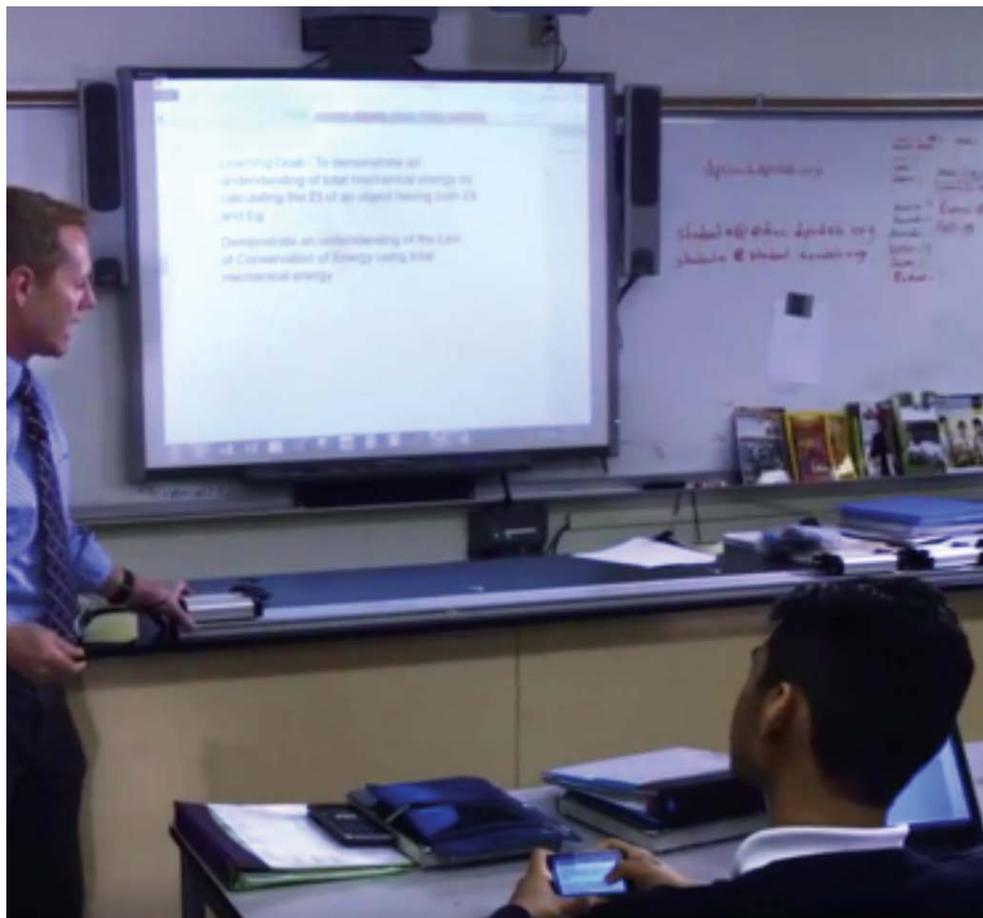
(Describing the impact of technology on teaching) – *"It's evident that through purposeful job-embedded teacher learning, **teacher practice has changed and student motivation and learning, as a result, has improved**. Through this project, the passion shown towards learning from both teachers and students was contagious. The teacher impact on how to enhance teaching and learning through the use of technology in the classroom has been immense, as teachers have continually challenged themselves to innovate based on the needs of their students."*

– Halton DSB

"We are seeing the benefits of documenting (through technology) the conversations with and between students as extremely insightful for planning next steps for learning. Observing students . . . provided the educators with a wealth of information that both showed evidence of learning and planning next steps for learning– information that would not have been as easily collected through the collection of a written paper or a project."

– Bruce Grey Catholic DSB

Success Stories: *Increased Collaboration in the Classroom*

(Les élèves partagent leurs réflexions sur un livre via Skype) – « La technologie permet de réelles opportunités pour le partage entre les élèves – partageant leurs expériences personnelles. » « Le questionnement est utilisé pour encourager les discussions. »

– CSDC des Aurores boréales

*"This year I had the opportunity to be in a STEAM based classroom . . . **we transformed our class into an open environment and open schedule**, it was so much fun and so different from any other class I have been in. We were all really excited about the change."*

– Grade 8 student, Simcoe County DSB

"I got the chance to (share) all my ideas and bring them to life through design, building while still meeting curriculum expectations. This was very cool, and something very new to me. Now I see STEAM as everyday work. I hope that I will have STEAM in the grades to come."

– Grade 8 student, Simcoe County DSB (On using creative/collaborative educational apps in the classroom)

"It's really easy just to click and send (class work) and share (through email with our teachers).

"It's really tough for me to write and easier for me to use (technology)."

*"**With my teacher**, I can see what she wrote on the side and **I can respond and send it back to her and (we) talk with each other**."*

– Students, Rainy River DSB

"Both teachers and students (could) engage in a genuine collaborative experience that combined technology and inquiry." Going forward, this teacher plans to apply his learning from the TLF project to future assignments and projects *"by focusing on the inquiry process, rather than front loading students with information, in order to provide students with genuine problem solving opportunities."*

– Grade 8 teacher, Simcoe County DSB

*In one teacher's classroom, students are **stimulated to wonder, to ask hard questions, to develop research plans, and to collaborate and express their learning and knowledge-building in deeper and more innovative ways**. As for her own professional development, she remarks that she is now becoming the teacher **she has always wanted to be, and learning is more of an adventure**. "I'm not telling my students what to think anymore. I'm guiding the students, guiding them to really think, to become critical thinkers, to wonder and to take ownership of their own learning, which gives them the sense of control, that understanding that they're in control of their own learning."*

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– Teacher, Hamilton-Wentworth DSB

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« Le Bloc-notes permet aux élèves de collaborer davantage. Les HH tels que l'esprit de collaboration et l'autorégulation sont développés davantage. Plusieurs applications permettent aux élèves de développer leur vocabulaire et consolider les concepts vus en classe. »

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– Enseignant, CSC Franco-Nord

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*"I saw a big difference in the way students approached problem solving, critical thinking and collaboration through and after the project. **They were much more willing to collaborate with one another**. They were able to connect with other people in order to accomplish their goal. The engagement from their individual passion allowed them to spark ideas amongst each other to continue their investigation further."*

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– Junior-Intermediate Social Studies teacher & Literacy Lead, York Region DSB

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*"Our 1:1 iPad initiative in the (board) has been responsible for **the fastest and most significant change in mindset that I have had in 17 years of teaching** . . . I no longer act as the sole provider of content, but more a facilitator, or guide, in an effort to tap into the creativity of my students. They now work in a much more collaborative environment (both physically and digitally) and **are learning to communicate and problem solve in new and exciting ways**."*

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– Teacher, Avon Maitland DSB

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"The 21st century learner is both teacher and student. If we want our students to be prepared for the real world, we need to educate ourselves and support them in the most innovative, creative, and collaborative practices. Technology helps us achieve this goal!"

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– Teacher, Dufferin-Peel Catholic DSB

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Summary

TLF: Increasing Opportunities for Success through Real Change

Ontario boards continue to report significant changes to the learning landscape in schools across the province through the Technology and Learning Fund (TLF) initiative. Further, they cite clear evidence of increased opportunities for both student success and teacher professional growth.

Research reports, information collected directly by the CODE technology leads, conversations with Directors of Education, discussions at the technology round tables, and reports provided by boards, all clearly show that *the quality of learning for Ontario students has significantly improved through the effective use of technology*. More specifically, there is strong evidence that the following changes are occurring each day in classrooms throughout Ontario:

- Improved student attendance
- Greater collaboration and communication among students and with their teachers
- Greater depth and quality of student assignments
- Use of a wider range of resources
- Increased student problem solving
- Sharing and posting of student work
- Wider connections to (and use of) world-wide resources
- Increased efficiency and effectiveness of student work
- Improved and more directed student assessment for learning
- Changes in teacher practice
- Greater teacher comfort in the use of technology in classrooms
- Growing sense of inquiry and innovation

There is also overwhelming anecdotal evidence from students, teachers, parents and principals (some of which is highlighted in this document) that the *Ministry of Education's technology initiative has created a positive impact on student achievement*.

"I wish I could use this technology at work. I believe every parent should have to attend this learning opportunity. Please let me know if I can help promote the next evening!"

— Parent at Huron-Perth CDSB evening Technology Summit

This newsletter shares some thoughts from students, teachers and board leads as to the impact that the Technology and Learning Fund initiative has had on them personally. Their comments form a compelling story about the increased opportunities for students to become successful learners for the 21st century.

Many boards are now in the process of collecting information and assembling data to verify what students, parents and teachers already know: "*the TLF is increasing student achievement while at the same time creating new, innovative and globally connected environments for student learning.*"

Board Reports

Links to TLF-related videos, blogs, Twitter feeds and reports from a selection of Ontario school boards.

Avon-Maitland District School Board

Report 1

Report 2

Bruce Grey Catholic District School Board

Report

CSDC des Aurores boréales

Video (note: video will download to your device before playing)

Dufferin-Peel Catholic District School Board

Report 1

Report 2

Report 3

Report 4

Report 5

Durham Catholic DSB
Video (YouTube)

Halton District School Board
Report

Hamilton-Wentworth DSB
Report

Huron-Perth Catholic DSB
Report

Lakehead DSB
Report

Provincial Schools
Report 1
Report 2

Rainy River DSB
Video (note: video will download to your device before playing)

Simcoe County DSB
Blog, **Report**, **Twitter**, and **video**

Toronto Catholic District School Board
Report

Waterloo Catholic DSB
Video: **Grade 6 class** and **Grade 3 class**

York Catholic DSB
Video 1
Video 2
Video 3
Video 4
Blog 1

York Region DSB
Report