

## « Schools Attuned, continued

### Communication

System structures/processes to roll out practical details of an undertaking are well established in Grand Erie, but authentic communication about how things are really going is an area under development. Creating an atmosphere that supports and encourages the sharing of professional practice is challenging. An email-based conference internal to the board to facilitate ongoing sharing of success, challenges, and questions by Schools Attuned® alumni is showing good promise as one sustainable strategy to mobilize knowledge. At the level of individual students and schools, staff involved with the project report that a focus on student strengths is an irresistible foundation for collaborative management of learning differences with most parents. Furthermore, a focus on monitoring is a key part of the board improvement plan.

### Next Steps

The immediate challenge to knowledge mobilization based on lessons learned from the CODE project is to find ways of supporting trained staff to consistently implement what they have learned, as well as offering continued training opportunities, in the absence of external funds to accomplish these goals. This approach includes taking a critical look at ways of building capacity with staff who have not yet been trained. ●

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Grand Erie District School Board Web Site. Available from <<http://www.granderie.ca>>

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## Bâtir la capacité du personnel pour assurer la réussite de tous les élèves

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L'amélioration du rendement des élèves demeure le point de mire de l'ensemble du personnel du Conseil scolaire catholique du Nouvel-Ontario.

On invite donc chaque année, le personnel à effectuer une analyse des items des tests de l'OQRE afin de déterminer et d'établir la liste des forces ainsi que des points à améliorer. De plus, on établit une comparaison avec les résultats des bulletins de chaque élève afin de voir si

les faiblesses relevées lors des tests se retrouvaient également dans les autres évaluations scolaires. L'année durant, les élèves pratiquent à répondre à des questions explicites, implicites et de liens, et cetera, dans toutes les matières. De plus, un plan d'action est dressé pour préparer et assurer la réussite des élèves aux tests de l'OQRE pour l'année en cours.

Les consultations fréquentes entre collègues (enseignantes et enseignants, enseignantes et enseignants ressources, éducateurs spécialisés) et avec les membres à la direction enrichissent le processus pédagogique. La clé de la réussite réside dans l'ouverture et la confiance entre tous les membres du personnel.

De plus en plus, le personnel enseignant est d'avis qu'il est primordial pour la réussite des élèves de faire en sorte que l'enseignement des processus soit le même d'année en année. Ainsi, plusieurs initiatives ont été mises en œuvre afin d'assurer cette harmonisation au niveau des processus d'écriture, de lecture, de résolution de problèmes et du projet de recherche. À titre d'exemple, les enseignantes et les enseignants aux cycles primaire et moyen se rendent disponibles pour faire du modelage dans les salles de classe afin d'assurer que les processus soient enseignés selon les paramètres établis. Cette constance et cette cohérence favorisent la réussite de tous, surtout les élèves ayant des besoins particuliers.

Les écoles misent surtout la réussite en lecture, sachant que ceci est la clé de la réussite scolaire. Plusieurs initiatives ont été mises en place pour atteindre les objectifs de compréhension en lecture. Dans quelques écoles les classes du cycle moyen ont participé au projet « Collaborer pour assurer la réussite des élèves ayant des besoins particuliers » subventionné par le ministère de l'Éducation de l'Ontario et élaboré par CODE. Ce projet vise le partage de stratégies en lecture ainsi que la formation et l'accompagnement des enseignantes et des enseignants pour répondre plus adéquatement aux besoins spécifiques des élèves avec des besoins particuliers dans les salles de classe. Au cycle primaire et au cycle moyen, on prévoit l'utilisation adéquate des trousseaux GB+ et DRA ; des outils

diagnostiques dont les livres nivelés favorisent l'enseignement guidé auprès de petits groupes d'élèves d'un même niveau d'apprentissage.



Aussi, la culture des communautés d'apprentissage professionnelles et de rencontres par niveaux permet de revoir et d'harmoniser les pratiques d'enseignement et d'améliorer le processus d'évaluation. Les écoles adoptent les principes de la table ronde des experts tels que stipulé dans le document.

« L'éducation pour tous ». Les enseignantes et les enseignants différencient les contenus, les processus et les productions. Dans le but de donner à l'élève avec des besoins particuliers le maximum de chances de réussite, un choix de questions traitant d'une même habileté lui est offert au cours de son évaluation. En plus de ce choix, l'entrevue peut remplacer l'évaluation traditionnelle écrite si l'élève le veut. Celle-ci permet les sous-questions, la rétroaction immédiate et la possibilité de réponses plus élaborées. Ces stratégies contribuent à rendre

l'élève plus actif et plus responsable dans le cadre du processus de son apprentissage.

Finalement, les écoles sont de vraies communautés d'apprentissage professionnelles où règnent la collaboration et la volonté de trouver des stratégies et des techniques efficaces pour assurer la réussite de tous les élèves. ●

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## Assistive Technology: Tech Tuesdays

Ottawa Catholic School Board

### Background

Over the past three years, the Ministry of Education has made funding available through the Council of Directors of Education (CODE) to school boards for projects related to the Education For All expert panel report. During the 2007–2008 school year, CODE funding was directed at supporting intermediate and secondary students through the use of assistive technology (AT). AT is promoted as a means of helping students gain independence, opportunity, a sense of accomplishment and academic success.

### Methods

A total of 106 teachers and administrators from 18 schools were invited to participate in a series of professional development (PD) activities. The PD model employed for this project was based on the positive results generated from the previous CODE projects. The PD allowed for the introduction of the topic using an expert in the field, an opportunity for participants to gather some practical experience and to practise the strategy in a neutral setting, and finally, the opportunity for participants to use the strategy back at their school site. Opportunities for professional dialogue and collaboration throughout each phase of the project were viewed as key to the success of the project.

Teachers were asked to complete a survey prior to the first PD session and again on the final PD day. The purpose of the survey was to get information about their understanding of AT and of Differentiated Instruction (DI).

The AT part of the questionnaire asked them about their:

- Knowledge of various assistive technologies
- Personal use of assistive technology, and
- Integration of AT into everyday planning

The part of the questionnaire that explored differentiated instruction asked them about their:

- Confidence in selecting the best assistive technology for students with specific learning needs
- Confidence in using various differentiating strategies in the classrooms, and
- The Ministry of Education's Readiness to use AT in the school checklist.

### Students

A student survey was sent to 91 students currently using AT. The resource or guidance teacher facilitated the use of assistive technology to aid in survey completion if appropriate.

The survey asked students to identify the types of AT they were using and how they were using them, to rate the degree of difficulty that using AT presented, to describe the benefits of using AT, and to make recommendations about AT use for other students and the system.

### Results

In order to assess whether or not there was a change in teachers' a) knowledge of various assistive technologies, b) personal use of assistive technology, or c) the integration of AT into everyday planning, a multivariate analysis of variance on **Knowledge, Use and Integration** was performed using pre- and post-survey data, with **Time** as the repeated, dependent variable. There was an overall significant effect of **Time**, with  $F(3, 21) = 10.4$ ;  $p < .01$ . Univariate analyses of each survey component revealed a significant change in teacher practice across time in each of the areas measured. The means for each survey component displaying change over time are presented in **Figures 1a, 1b, and 1c**. (Note: The maximum score for Knowledge was 11, for Use was 44, and for Integration was 33.

## « Tech Tuesdays, continued

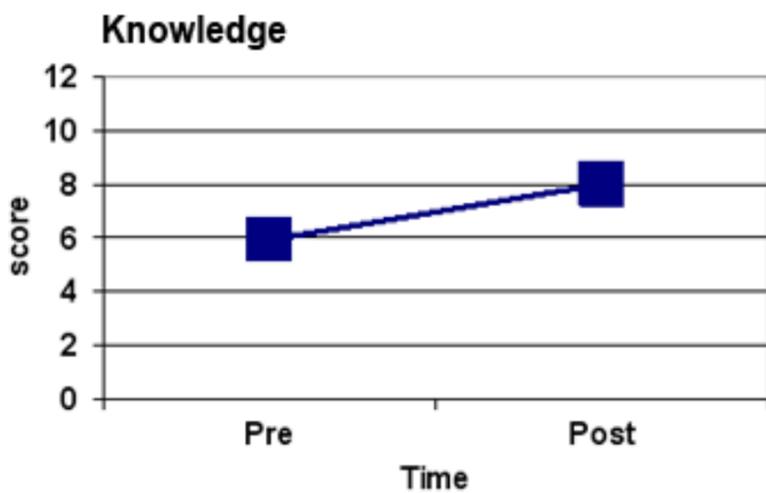


Figure 1a: Knowledge over Time

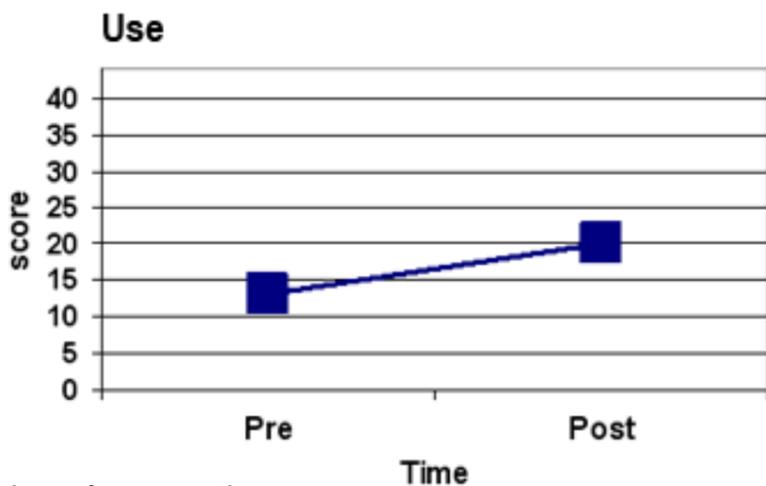


Figure 1b: Use over Time

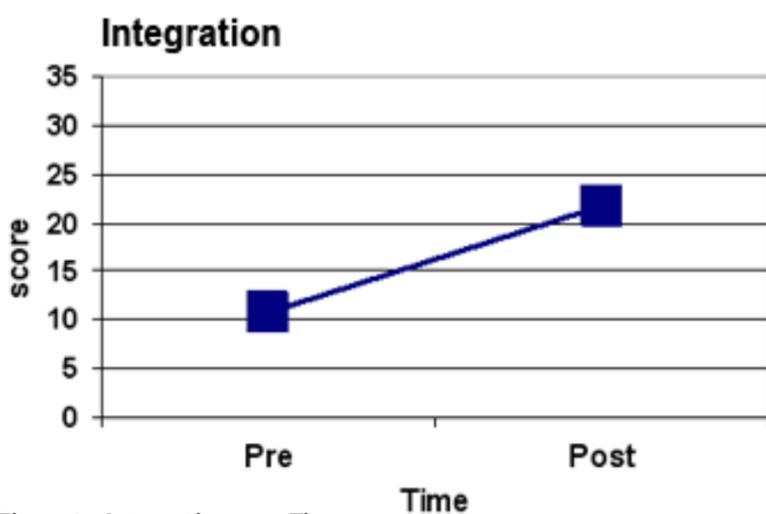


Figure 1c: Integration over Time

**Differentiation**

Teachers were asked about differentiation practices in their classrooms. The first set of questions asked them to rate their degree of confidence in augmenting instruction with AT, given a need. A repeated-measures ANOVA was performed using **Time** as the repeated, dependent variable. There was a statistically significant increase in teachers' confidence in supporting specific learning needs with AT as a result of participating in the project. The means are presented in **Figure 2a**. (Note: Maximum score was 35.)

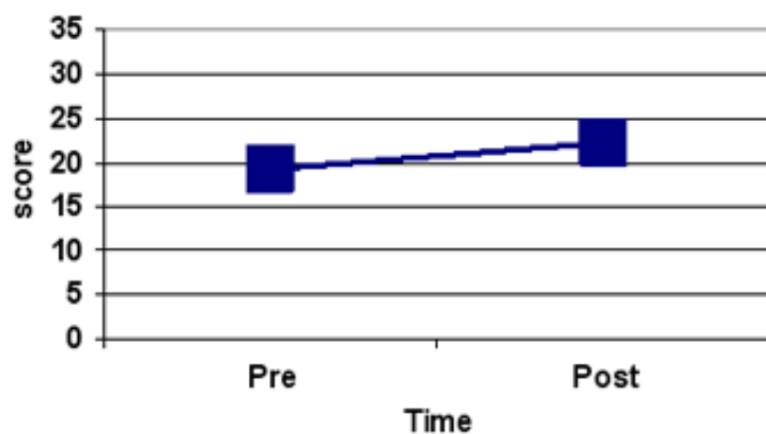


Figure 2a: Differentiation for Specific Learning Needs

A second series of questions asked teachers to rate their confidence in using instructional strategies to support differentiation. A repeated-measures ANOVA was performed using **Time** as the repeated, dependent variable, and a significant effect was observed. The means are presented in **Figure 2b**.

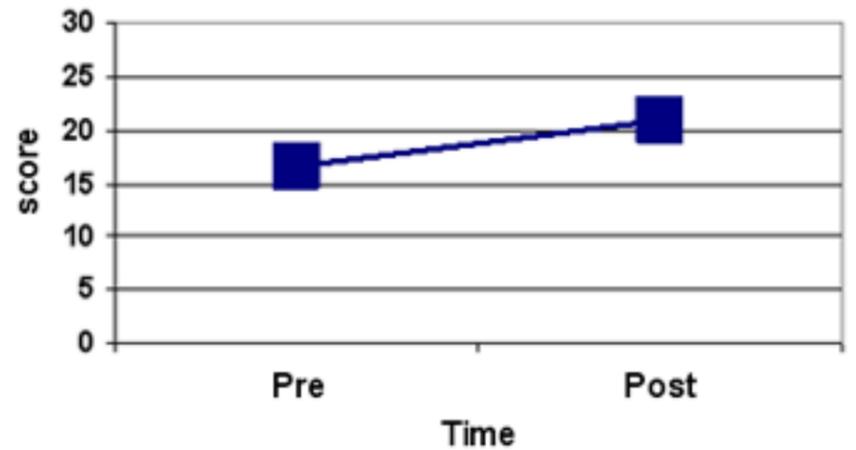


Figure 2b: Use of Differentiation Instructional Strategies

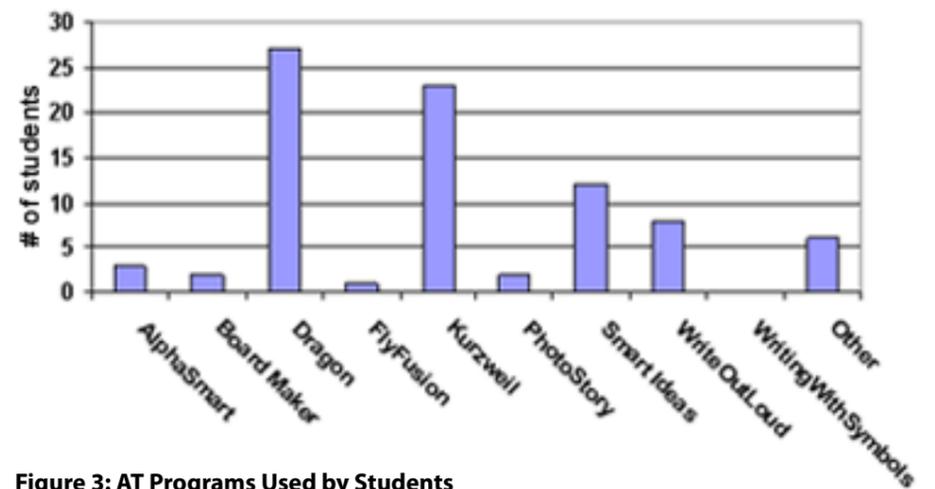


Figure 3: AT Programs Used by Students

**Figure 3** depicts the frequency with which various programs are used by students. The majority of the students reported using two programs, although a few of the older students reported using more, most notably programs like Excel and Word.

The results from the survey are graphically depicted in the full report and are summarized here. Typically, and not surprisingly, the older students were the more likely they were to have been using AT for a few years, to be using it in all their classes, and to report that they could use AT independently.

There did not appear to be a correlation between the type of program used and the comfort level or the way AT was used at school. Anecdotally, students reported that the programs were easy to use, although several students commented that Dragon Naturally Speaking was difficult to learn to use and took the most time to learn to use effectively, although the time invested "paid off." Comments about Kurzweil and Write Out Loud also suggested that students would recommend the programs to other students who were "slow at writing." In general, students reported they would recommend AT to other students because "It makes things faster and can help a lot."

Students, in general, reported that:

- Using AT at school was not a problem
- The equipment worked most of the time
- They felt supported by regular classrooms teachers, and
- They could get help when they needed.

There was some dissatisfaction expressed regarding the unavailability of AT for use at home. As well, there was a small discrepancy between the genders; girls were more likely than boys to report "feeling weird" about using AT and to report having more of a problem bringing it to class.

Students reported that AT helped them work faster and better, but was less useful when it came to helping them to understand or keep up with their peers. Students also had the following comments:

- [AT] helped a lot so I think it would help a lot of people with messy handwriting
- It is faster and makes work fun and because it is a great tuwal (sic)
- Kurzweil and Dragon don't work well in French
- It is like someone with glasses...it helps to be the best you can do
- It helps you to be equal with everyone else and it allows you to go to college or university
- It is easy to pick up
- Dragon Naturally Speaking is good for people with fast talking and good enunciation
- I like that only a few people have laptops
- At home the only word processing applications we have are Microsoft Office and when I don't have my laptop it makes it difficult to do work.

**Discussion**

The results support the conclusion that the CODE Year 3 project, Assistive Technology: Tech Tuesday, was a success in the Ottawa Catholic School Board. Participating teachers gained a significant appreciation for the functionality and the role of AT in helping [all] students learn. Increases were observed in their knowledge of AT, their use of AT, and their ability to integrate AT into regular classroom practices after participating in the project. It appears that teachers still need support in determining the best AT to use for students with specific learning needs but, as noted by a participant, there is always more to know when it comes to AT.

Generalized use of AT as a regular instructional strategy was not the norm and is another area to be addressed through in-service in the ensuing years. Teachers were likely to embrace the use AT if they had a student already using it (e.g., through a Special Equip-

## « Tech Tuesdays, continued

ment Allocation grant). Issues arose around accessibility and reliability of AT currently in the schools. In summary, attitudes towards AT were positive and there appeared to be a general thirst for more information about using AT to help students be successful.

Students embraced the use of AT and had very few concerns about using AT at school. Indeed, they wanted access at home. They reported that they were generally well supported at school and that they felt they could get help with AT if they needed. Interestingly, teachers were more likely than students to suggest that students would feel singled out or different if they were using AT. The majority of students using AT did not report feeling self-conscious about using AT at school. There was a similar discrepancy between teacher and student perceptions when it came to reports on the benefits of AT. Teachers were more likely than students to report that AT improved the quality of student work and helped to support understanding. Students seemed to see AT more as a tool to help them get their work done faster, but issues relating to understanding and organization were less likely to be influenced by the use of AT.

The CODE Year 3: Tech Tuesday project provided insight into the use of AT in the intermediate and secondary panels. It appears that attitudes and knowledge regarding the use of AT are further ahead of the some of the technical and practical issues. For example, teachers and students are more than willing to use AT, but having only one electrical outlet in the classroom limits the application of AT. Similarly, teachers indicated a willingness to integrate AT into their regular practice, but need time to do so. Assessment practices appear to be another barrier to regular integration of AT in the classroom. There appears to be no doubt, however, that Ottawa Catholic School Board is on the right track when it comes to using AT as a means of helping students with special needs to gain independence, opportunity, a sense of accomplishment, and academic success. Further, AT's usefulness and the imperative need for AT to support students can be summed up in the words of one AT student user who said,

**"Even kids with no problems can use it!"** ●

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## Making a Difference by Making It Different

Rainy River District School Board



For the CODE Special Education Project, Making a Difference by Making It Different, all Rainy River District School Board schools were involved, although the main focus for the project was in the primary and junior divisions of all elementary schools. Approximately 115 teachers, including elementary and secondary Special Education Resource Teachers, benefited from the improved professional practice through the support of professional learning communities, professional development in differentiated instruction and in assistive

technology, and resources, which in turn improved the achievement of approximately 789 primary students and 515 junior students throughout the Board.

The CODE project focused on improving professional learning. All primary, junior, and Special Education Resource teachers participated in school and system professional learning communities. Differentiated instruction training was provided to new teachers through the New Teacher Induction Program, and it was also a focus of all primary and junior professional learning communities. In addition to this training, teachers across the system benefited from the monthly Differentiated Instruction newsletter and evening professional learning sessions held by the Board Literacy Coordinator.

### Role Development and Best Practices

The Student Achievement Teacher (SAT), a leadership role within each elementary school, was expanded within all schools to assist with peer coaching/co-teaching within both the primary and junior panels. This role also facilitated school-based professional learning communities and was further supported by the system consultants and by central meetings of the Student Achievement Teachers who explored ways to expand the coaching model at the school level. Facilitating moderated marking sessions and leading school team EQAO training, the Student Achievement Teacher was a key person in ensuring alignment of Ministry and system initiatives within the school.

The role of the Special Education Resource Teacher (SERT) moved to a more inclusive role in the school through the professional learning communities. The SAT worked closely with the SERT in providing supports for students with special education needs. Students considered at-risk were tracked at each professional learning community, creating a shared responsibility for closing the gap for these students and aligning with the Student Success Initiative's principles.

Another focus of the CODE project was a deepening of best practices and resources through the development of the Board Assessment Plan. The Rainy River District School Board's extensive Assessment Plan outlines the system's assessments, such as the Developmental Reading Assessments (for students in Kindergarten to Grade 3), CASI Reading Assessment (for students in Grades 4 to 8), and writing exemplar tasks, with clear guidelines for the administration, timing, frequency, and collection of data of all assessments. These assessments are used to inform our efforts by focusing and refining instruction and monitoring student progress. Professional learning communities within the primary, junior, and intermediate divisions focused their decision making on the collection and analysis of such data. For instance, all students in the primary division are tracked on a literacy

spreadsheet. An area for development is a system-wide tracking mechanism for junior at-risk students. Overall, the system for collecting data and its analysis alongside EQAO data were instrumental in the implementation of the School Effectiveness Framework last year and have laid the groundwork for the Teaching-Learning Critical Pathways.

### The Impact of Assistive Technology

A lesson learned from the CODE project was in the area of assistive technology. The *Education for All* report states that "Assistive technology is a powerful tool. It is any technology that allows one to increase, maintain or improve the functional capabilities of an individual



with special learning needs. Its applications and adaptations can help open doors to previously inaccessible learning opportunities for many children with special needs." The Board's Special Education Services department has provided assistive technology such as FM systems and sound amplification, print enlargers, a Braille embosser that prints any scanned text, voice-to-text and text-to-speech software, and communication aids (speech synthesizers and touchscreens) for students requiring such support.

In the spring of 2008, Special Education Services conducted a data-driven study of approximately 20 identified students in Grades 4 to 6 to show how assistive technology impacts student achievement in spelling, reading comprehension and written expression. The results were compelling, especially in the area of written language. With the assistance of SpeakQ software, 100% of students that were tested increased spelling achievement by more than four grades. Eighty-five percent of students demonstrated increased achievement in reading using Kurzweil software. Seventy percent of students had an increase of at least four grade levels in written language achievement using WordQ software.

### Staff Reorganization and Training

Despite these promising results, assistive technology is an area for further development for the Board. A survey of primary and junior teachers, as well as SERTs, indicated that staff were still in the initiation stage. Early in the project, SERTs were provided with intensive training in assistive technology alongside the Information/Communication Technology (ICT) Leads for each school. ICT Leads are teachers who are provided with ongoing professional development and support in the area of information/communication technology and, in turn, share this knowledge with school staff. While this early model seemed a logical path for implementing assistive technology, the Board encountered some obstacles. First, both roles seemed to change frequently over the years without the knowledge transfer. Secondly, assistive technology is a quickly changing field; professional development could not keep up with the changes. Also, teachers' expertise in information technology varied greatly, and as a result, so did the use and integration of the assistive technology in the district's classrooms. And there were still teachers who did not see the value of assistive technology or its role as a "cognitive prosthesis" (Cavalier, Ferretti, & Okolo, 1994).

To overcome these obstacles, Special Education staffing was reorganized to allow for a System Special Education Resource Teacher who would specialize in assistive technology and would work with elementary schools across the district. As the secondary panel has provided release time for ICT Leads, the focus for this upcoming year is to provide further training for this role at the secondary level. The secondary ICT Leads would then take the lead for training but would work closely with the SERTs, who would be responsible for developing a school plan for ongoing training.

With respect to training, best practices across the system highlighted the importance of personalizing training for each student's support network. An important recipient of training was the school's Education Support Personnel (ESP), ensuring that all ESP knew how to use the technology and to support all students within the school. One school trained the students, providing a one-hour tutorial for each student about the basic functions of the laptop and the prescribed software, with parents encouraged to attend these tutorials. Teachers also were provided with training and ongoing support, such as noon-hour tutorials demonstrating how to get the most of the technology and promoting its use within the classroom. Another best practice was providing training exclusively for parents through an evening session. Parents need to support student learning and promote the use of this technology with their children. During this evening session, parents were also given a tutorial on how to use assistive technology such as Kurzweil and ReadPlease.

### Next Steps

Additional barriers existed within the school infrastructure. Print material (textbooks, assignments, tests) needed to be made available for the students and therefore, network scanners were relocated in student-accessible areas. While Education Support Personnel were initially trained in scanning print material, the goal is to enable greater student independence. As well, the Board established a central library of scanned material and has since promoted the importance of purchasing digital textbooks whenever schools purchase resources. The final step to increase accessibility of assistive technology and to remove the stigmas that may be attached to its use will be the installation of wireless access in all schools, thereby allowing all students to use laptops in the classrooms.

The successes of Making a Difference by Making It Different came largely through narrowing and deepening our Board's focus and its system plan, building capacity through professional learning communities, promoting coaching/co-teaching models, creating a framework in which to consistently analyze data to inform decision making, and carefully considering feedback at all levels to improve practice. The CODE project was the "tipping point" in respect to making a difference for all students, but especially in regard to closing the gap for students with special education needs. ●

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