

« The CODE Chronicle of the NSA, continued

The boards of the Northwest School Authorities are made up of one and sometimes two K–8 schools. Principals are often teachers as well as administrators and curriculum leaders. Teachers often teach multiple grades, with limited access to supports common to most teachers in the province.

The CODE project has had a profound impact on professional practice over the years. Instructional practice has improved. Gains have been made in student achievement. Teachers have access to current teaching and learning resources. Professional knowledge in areas key to student achievement continues to develop and progress, such as in oral language, Aboriginal learning styles, balanced literacy, differentiated instruction, universal design, assistive technology, and IEP writing.

In the first years of the project, one school was designated a demonstration school. The school received intensive support in implementing the evidence-based instructional strategies supported by *Education for All – The Expert Panel Report on Literacy and Numeracy Instruction for Students with Special Education Needs*. Conditional to this support was the agreement of all staff members to host, demonstrate, and share their professional experience with visiting teachers from the other isolated schools in the northwest. This facilitated the networking of teachers across the vast geographical expanse of northwestern Ontario.

Concurrent with support to teachers was a focus on developing a professional learning community of principals. Investing in the professional development of the principals was key to the implementation of strategies that supported improved student achievement for all students but especially those with special education needs. The principals continue to be key to consolidating successful practices within and across the isolated school boards of the northwest.

The project was facilitated through the collaborative efforts of the project officers of the Northern School Resource Alliance. The expertise of the project officers across many educational domains was integral to the success of the project.

In the consolidating year of the project, schools used funding to provide release time for in school teams to meet in PLC teams to:

- Analyze student achievement data
- Develop programming for students with special education needs
- Make data-based decisions to identify and employ evidence based program instruction and interventions

The table below outlines some of the ways CODE project funding has addressed achievement for all students:

Principles	Strategies	Key Elements Addressed
Use of Student Achievement Data	<ul style="list-style-type: none"> • Implementation of the Web Based Teaching Tool from JK–1 • DRA implemented up to Grade 6 • CASI in senior elementary grades • Assessment schedule K–8 to inform instruction and determine interventions • Data walls developed • Analysis tools developed and distributed • Use of Tinker Plots to analyze and disaggregate student achievement data 	<ul style="list-style-type: none"> • Professional learning • Instructional leadership • Assessment • School organization • Communication
Teacher Capacity Building	<ul style="list-style-type: none"> • Common resources provided to all schools on differentiated instruction • Demonstration school supported by project officers • Teachers from other isolated schools visit the demonstration school to see strategies in action. • Training on use of assistive technology linking with Thunder Bay Catholic DSB • On-site coaching on best practices for teaching literacy and numeracy skills • Regional conferences focusing on evidence-based instructional strategies • Inclusion of special education teachers in all literacy and numeracy training 	<ul style="list-style-type: none"> • Professional learning • Instructional leadership • Assessment • School organization • Communication
Alignment <ul style="list-style-type: none"> • School effectiveness • OPA Student Assessment project (i.e., implementing the use of WBTT) • Literacy and Numeracy Secretariat initiatives • Aboriginal education • Model projects for student behaviour • Character education and safe schools • Student success 	<ul style="list-style-type: none"> • Development of a principals' network • Regular teleconferences with the principals' network • Use of data walls to analyze student achievement • "I Know Who I Am" Aboriginal storytelling • Participation in Oral Language Assessment Project • Use of Wikispaces to connect isolated communities for ongoing collaboration 	<ul style="list-style-type: none"> • Professional learning • Instructional leadership • Assessment • School organization
Sustainability	<ul style="list-style-type: none"> • Web-Based Teaching Tool used in schools to identify early learning needs and interventions • Assessment schedule developed for JK–8 * • NTIP focus on best practices for literacy and numeracy instruction • Coaching school teams in use of data walls to improve student achievement • School Effectiveness Leader supports ongoing use of successful practices • Small school PLCs ... bringing staff from the smallest schools (i.e., one or two teachers) together for collaborative professional development • Nurturing relationships with regional school boards to access specialized training (e.g., assistive technology) • Use of Adobe Connect, Skype, and Wikispaces to maintain communication and progress • Collaboration with Student Success Leader and initiatives 	<ul style="list-style-type: none"> • Professional learning • Instructional leadership • Assessment • School organization • Communication

* For information about the NSRA's "Student Assessment Schedule: Informing Instruction & Determining Interventions" ("Flagged" or "At Risk" Learners - JK to Grade 8), please contact Don Parsons, Project Officer at the email address below.

Intervention Planning Guide (Sample)

Student	Instructional Reading Level	Reading Behaviours What can the student do?	Goal What do you want the student to do?	Instructional Strategies What will we do? Strategies must align with goal(s).	Indicators of Success What will success look like?	Timeline How long will this intervention be?

Student Reading Profile (Sample)

Student Name	
Teacher / Grade	
Date	
Data Current Running Record	
Observable Reading Behaviours What <u>can</u> the student do?	
Primary Reading Concerns What does the student need?	<i>(Examples: fluency, decoding, comprehension, motivation)</i> 1. 2.
Intervention Strategies What have I tried so far?	
Instructional Strategies What does the group (team) suggest?	

The key to the success of the CODE project for the member boards and school communities supported by the Northern School Resource Alliance has been collaboration. Schools isolated by distance and weather conditions have demonstrated that with support, they can develop professional learning communities that have a positive impact on the achievement of all students. Schools are confident that with the ongoing support, the accomplishments outlined in the article will continue to progress. The skills, strategies, and networking abilities developed over the last four years will have a lasting impact on the achievement of all students. ●



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CODE Special Education Project 2005–2008; Implementation of Education for All, A Schools Attuned® Approach

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Introduction

Since 2002, the Peel District School Board has been a licensed provider for *Schools Attuned® to All Kinds of Minds*, a professional development program for educators. Based in North Carolina, All Kinds of Minds is a not-for-profit institute that provides educators and parents with up-to-date information and strategies related to the neurosciences. The *Schools Attuned* program consists of a 35-hour course and 10 hours of follow-up sessions or online modules related to the neurodevelopmental framework created by developmental pediatrician Dr. Mel Levine.

The Schools Attuned® program aligns with universal design for learning, differentiated instruction, and the development of student profiles, all integral aspects of the *Education for All* expert panel report (2005). The content of the course is based on eight neurodevelopmental constructs along with their functions and components. The philosophy includes beliefs which support strengthening and leveraging students' strengths, enabling students to better understand their own learning, infusing students and parents with hope and optimism, and embracing diversity among learners. Several processes and tools to support effective instructional practices are taught during the program

For further information about the Schools Attuned® program, see: www.allkindsofminds.org.

« CODE Special Education Project 2005-2008, continued

Project Overview

Funds from the CODE Special Education Project 2005–2008 were used to provide the Schools Attuned® program to teams of administrators, classroom teachers, and in-school support staff in selected schools in Peel to support implementation of *Education for All*. Many professional staff (psychology, speech/language pathology), consultants, and coordinators have also participated in the Schools Attuned® program.

The following themes were common to each project:

- Teacher capacity building
- Development of professional learning communities
- Common framework for understanding learning
- Development of student and class profiles
- Use of Schools Attuned® and Instructional Intelligence approaches—tools and processes
- Impact of teachers' use of strategies to improve student learning
- Students' understanding of their own learning profiles
- Student use of strategies to strengthen strengths and support weaknesses
- Student and teacher use of metacognition and reflection to support student learning
- Parental engagement

The purpose of the CODE Special Education Project 2005–2008 was to determine the impact of the Schools Attuned® professional development program. Each yearly evaluation employed Level 4 (application of new knowledge and skills) and Level 5 (student learning) of Guskey's *Five Critical Levels of Professional Development Evaluation* model (Guskey, 2000). As seen in Table 1, a variety of data collection techniques were used over the three years.

Table 1: CODE Special Education Project Methodology over Three Years

Year 1: 2005–2006 Schools Attuned training for five elementary schools	
Teacher pre- and post-program surveys (n=28) Teacher and administrator interviews	Application of Schools Attuned approaches Implementation enablers and challenges
Year 2: 2006–2007 Schools Attuned training for five elementary schools	
Teacher post-program survey (n=17) Teacher tracking form (n=9) Student reading assessment (n=10)	Application of Schools Attuned approaches Pre- and post- use of instructional strategies Alphakids reading assessment
Year 3: 2007–2008 Application and impact of Schools Attuned in the 10 schools	
Teacher pre- and post-program surveys (n=20) Student baseline/follow-up interviews (n=250)	Application and impact of Schools Attuned Knowledge/understanding of own learning Use of strategies

Results

Table 2 presents the extent to which teachers reported using various Schools Attuned strategies in Year 1 (with all students in the class) and Year 3 (with individual students who struggled with learning). In Year 1, over a one-year time frame, teachers reported an increase in the frequency of using several Schools Attuned® strategies, particularly strategies involving the neurodevelopmental constructs and student profiles. In Year 3, over a six-month time frame, teachers reported an increase in the frequency of using various Schools Attuned® strategies with individual students who struggled with learning. Increased use was seen most among instructional strategies used to further strengthen student strengths and target student needs.

Table 2: Mean Survey Results For Year 1 and 3 - Extent to Which Teachers used Schools Attuned® Strategies In Their Teaching Practices

Survey Items	Year 1 Pre-Program Spring 2006 Mean (n=28)	Year 1 Post-Program Spring 2007 Mean (n=28)
With all students in my classroom...*		
I use ND terminology to describe observations of students.	1.96	3.39
I select/adapt accommodations and interventions for students based on an understanding of a ND framework.	2.36	3.50
I plan lessons in ways that have incorporated aspects of the ND framework.	2.64	3.43
I make changes to instructional decision making based on student profiles.	2.96	3.64
I use profiles of students in planning accommodations and strategies in teaching.	2.93	3.43
I am able to speak clearly with parents regarding their child's strengths and weaknesses.	3.57	3.89
I am confident in my ability to manage differences in student learning.	3.18	3.45
I plan lessons in ways that leverage student strengths.	3.46	3.68

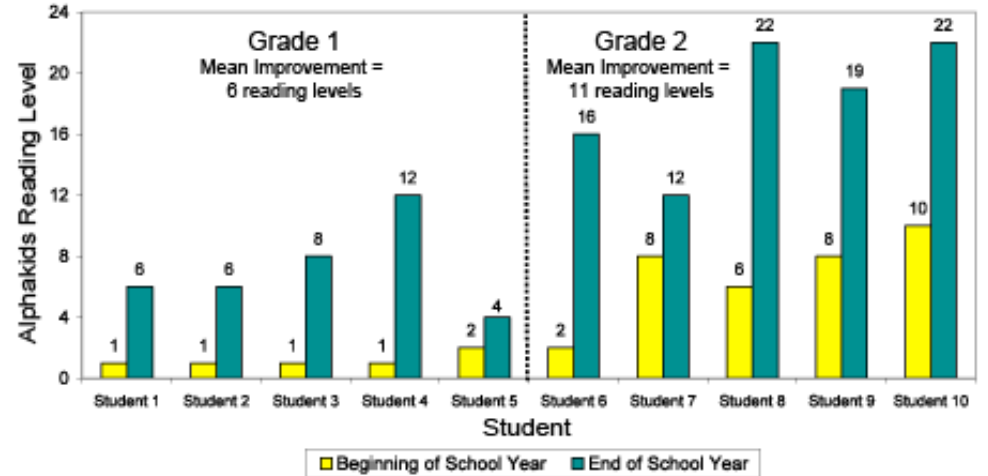
Survey Items	Year 3 Pre-Program Dec. 2007 Mean (n=20)	Year 3 Post-Program June 2008 Mean (n=20)
With individual students who struggle with learning, I use what I learned in Schools Attuned to...**		
differentiate instruction based on the student's strengths, needs and abilities.	3.05	3.30
provide specific opportunities for the student to strengthen his/her strengths.	2.95	3.10
implement strategies that target the student's needs.	3.25	3.40
seek input from the student when considering his/ her strengths, needs and affinities.	2.85	3.00
analyze the student's work samples based on the ND constructs.	2.10	2.25
consider how the ND demands of certain tasks or assignments may impact the student's performance.	2.90	2.95
monitor the impact of strategies I implement and modify them accordingly.	2.90	2.90
implement strategies that leverage the student's affinities.	2.85	2.85

* A four-point frequency-based Likert-scale was used (1–never, 2–rarely, 3–sometimes, 4–often).

** A four-point frequency-based Likert-scale was used (1–rarely, 2–sometimes, 3–often, 4–almost always).

Figure 1 presents the Alphakids reading assessment levels achieved by 10 target students in Year 2 of the project. It can be seen that every student in Grade 1 and Grade 2 improved their reading level throughout the school year. On average, Grade 1 students improved by six reading levels, and Grade 2 students improved by 11 reading levels.

Figure 1: Alphakids Reading Assessment Results for Year 2



Note: Possible reading levels range from 1–24. Higher scores indicate more advanced reading levels.

Table 3 presents the extent to which teachers thought Schools Attuned® had an impact on their teaching practices and their students' learning over a six-month time frame, in Year 3. It can be seen that teachers reported an increase in the impact of *Schools Attuned* on their teaching practices, particularly in the area of understanding how students learn. Similarly, teachers reported an increase in the extent to which Schools Attuned® had an impact on their students' learning, particularly in the areas of understanding their own learning, advocating for their needs, and managing their learning difficulties.

Table 3: Summary of Survey Results for Year 3 – Impact of Schools Attuned® on Teaching Practices and Student Learning

Survey Items	Pre-Program Dec. 2007 Mean (n=20)	Post-Program June 2008 Mean (n=20)
Schools Attuned has impacted my...*		
overall understanding of how students learn.	3.40	3.55
ability to help students understand their own learning.	3.20	3.35
belief that leveraging strengths and affinities is as important as remediating needs.	3.40	3.50
ability to address the learning needs of all students.	3.40	3.45
ability to form alliances with students as their partner in learning.	3.21	3.10

Survey Items	Pre-Program Dec. 2007 Mean (n=20)	Post-Program June 2008 Mean (n=20)
Schools Attuned has impacted my students'...*		
understanding of their own learning.	2.80	3.05
ability to advocate for their own needs.	2.60	2.85
abilities to manage their learning difficulties.	2.65	2.80
engagement in the learning process	3.05	3.15
motivation to learn and optimism about their success.	3.15	3.10

* A four-point Likert-scale was used (1–not at all, 2–slightly, 3–moderately, 4–greatly).

Additional Project Activities

Several professional development activities occurred to enhance understanding and deepen practice for participants who attended the Schools Attuned® program.

- Some schools planned and implemented after-school activities for students and parents, such as the All Kinds of Minds Fair and the Learning About Learning workshops for parents. The All Kinds of Minds Fair, held at one of Peel's junior elementary schools, was recorded on DVD and is available for viewing by staff, students, and parents.
- In the first year of the project, school staff attended focus groups, providing information to assist with further direction of the project. In the final year, selected staff in "CODE schools" attended a Schools Attuned® World Café, which provided opportunity for collaborative dialogue, sharing of ideas, and planning within school teams.
- One of our secondary schools developed and implemented a full-day All Kinds of Minds Student Fair for Grade 9 students. This workshop helped students to develop knowledge of the neurodevelopmental constructs; identify their own learning strengths, weaknesses, and affinities; and investigate how knowledge of their own learning profile could support development of their employability skills. A DVD that documents activities on this day is also available to Peel staff.
- In the final year of the project, Schools Attuned facilitators who had in-depth knowledge of Peel's Teaching and Learning Plan and school success planning process supported CODE schools through *consultation to school teams and delivery of professional development activities* related to Schools Attuned®. This model of support for professional development has continued into the 2008–09 year, with facilitators consulting to school teams and providing professional development sessions in collaboration with other Peel resource staff.

« CODE Special Education Project 2005-2008, continued

Conclusions

Application of Knowledge and Skills

- **Year 1:** One year following Schools Attuned® training, teachers increased the use of Schools Attuned strategies in their classrooms, particularly in the areas of neurodevelopmental constructs and student profiles.
- **Year 2:** Following Schools Attuned® training, the majority of teachers used the strategies either sometimes or often, and found that the strategies were very helpful when working with students with special education needs.
- **Year 3:** Six months following Schools Attuned® training, teachers increased the use of several strategies with individual students who struggled with learning. Teachers also felt that Schools Attuned® positively impacted their teaching practices, particularly in the areas of understanding how students learn.

Student Learning

- **Year 2:** Grade 1 and 2 target students greatly improved their reading levels throughout the school year.
- **Year 3:** Teachers believed that Schools Attuned® strategies had a positive impact on their students, particularly in the areas of understanding their own learning, advocating for their needs, and managing their learning difficulties. Students knew their own learning strengths and weaknesses, knew they were using strategies to help them learn, and were positive about their learning.

Next Steps

The implementation of Schools Attuned® approaches continues to be a key element of effective instructional practice in Peel in 2008–09. Teachers, administrators, and professional staff are working within a collaborative climate that strives to integrate the knowledge, philosophy, and processes of Schools Attuned® with other key instructional elements to support school success planning and address the programming needs of all students. With the introduction of the *Learning for All Guide*, Peel will continue to use the lessons learned from the CODE special education projects to enhance professional development for staff and to further the development of UDL and differentiated instruction to support students with special learning needs.

A compilation of the full reports covering the three-year project will be available from the Peel District School Board in September 2009. ●

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Apple® Assistive Technology Project

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It's the classrooms where students can express themselves in ways that are natural to them—with technology that is already part of their lives....Motivation soars and students become engaged in new and deeper ways of thinking.

– Dr. Linda G. Roberts

Dr. Roberts' words encapsulate the experience of students and staff involved in the Apple® Assistive Technology Project in the Superior North Catholic District School Board. One-time, three-year funding flowed from the Ontario Ministry of Education through the Council of Directors of Education (CODE) and Northern Ontario Education Leaders (NOEL).

The following is a brief summary of the data collected during the first 10 months of the project.

Rationale and Vision

1. To investigate whether the use of specific technology improves students' literacy skills—specifically, writing.
2. To improve student achievement for all students, especially those with special needs:
Apple® technology supports equitable and accessible interdisciplinary projects inclusive of students with special needs respectful of differentiated learning.
3. To build capacity for effective and accountable use of technology in improving teaching strategies and achievement for all students:
Apple® technology provides coaching 'at the elbow.'

Overview of Project

During the 2007–2008 school year, four classrooms at three schools within the Superior North Catholic District school board investigated whether the use of Apple® technology improved literacy achievement for all students. The following are observations and anecdotal comments observed during the last 10 months.

The teachers involved in the project had varying degrees of technology experience and skills, as outlined in a self-reflective survey that began the CODE project. Few used technology as part of teaching practice.



The Apple® technology project provided professional learning whereby both the educators involved in the project and their students had professional learning in their classrooms.

By the end of the project, all the teachers involved made significant gains in terms of how they integrated technology into their respective curricula.

All teachers moved from the Entry stage, where teachers use technology to deliver curriculum content to students, to the beginnings of the Adaptation stage.

This is a significant accomplishment in just 10 months. Significant momentum was observed over the course of one year.

Greatest Benefits

The greatest benefit, evident in every classroom, has been the high level of student engagement on each task involving the use of Apple® technology.

According to administrators and teachers involved at the respective schools, there is positive recognition of the level of student engagement in the writing process.

Students using the Macbooks remain on task and focus on editing and revising work, especially in collaborative peer grouping.

Pedagogical Changes

Another benefit of this project has been its positive impact on pedagogy. Teachers involved in the project have been able to effectively teach cross-curricular projects. Instruction on the use of Apple's® iLife suite of tools enabled teachers to model website construction, movie editing, and DVD and music creation to benefit their students' achievement.

The use of applications such as iChat allowed professionals to connect and share ideas in order to build lateral capacity. Classrooms used iChat to share presentations with each other and to bridge geographical barriers. For example, students communicated in real time with scientists at Science North—experts from outside of the community.

Multiple Intelligences

As an extension of students' ability to use various modal responses to demonstrate learning, there appears to be an increase in student self-esteem and a positive approach to technology.

Teachers noted that students who had previously been challenged to feel included in the classroom became more willing to participate in classroom discussions and group-oriented activities. Visual-spatial and bodily-kinesthetic learners had outlets to express themselves clearly and openly.

Through the ease of use of several of the iLife applications, all students' learning styles were addressed. One teacher noted, "... an identified student who has IEP modifications was included into a number of class activities/projects that would have been impossible otherwise."

The Apple® Technology Project has made a difference in the ways that students respond to text and to learning.

Conclusion

As a result of the project, significant student achievement and teacher capacity building are anticipated.

All participants have enjoyed using the technology and software and have found it beneficial to their learning and practice. When students were polled as to the impact of the laptop project, more than 93% responded that they felt it did assist them. Students who were polled wrote that the technology helped them with three main areas in writing: editing, clarity, and length of written response.

The addition of the multimedia capability of the technology, coupled with its ease of use, added a uniqueness to the project that was quite unexpected for both teachers and students.

The project is successful in numerous ways but most notably in terms of how it assisted students to communicate in writing and to clarify ideas. Students are being engaged in higher-order thinking as a result. ●

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