

**Literacy and Mathematics Coaching And
Demonstration Classrooms: Impact on Staff
Capacity for Evidence Informed Practice,
School Planning and Student Achievement**

**Completed by: *Simcoe County District
School Board***

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Essential Questions

1. What impact does the implementation of Professional Collaboration Sites (i.e., demonstration classrooms) in literacy and numeracy have on student achievement and teachers' and administrators' capacity for evidence informed classroom practice and school planning, respectively?
2. What impact does the implementation of literacy and math coaches have on student achievement?

Background

In 2006-07, the Board established literacy and math coaches and demonstration classrooms in literacy and mathematics as part of our Board's Ontario Focused Intervention Partnership plan to support low achieving schools. As part of the budget process, the Board of Trustees provided additional funds to allow the expansion of literacy and mathematics coaches and demonstration classrooms in 2007-08; these supports are continuing in 2008-09. In 2007-08, there were 18 demonstration classrooms, 1 focused on literacy and 1 on mathematics in each division (primary, junior and intermediate) in each of the 6 Areas of the SCDSB.¹ Sustaining internal budget support in future years hinges on providing evidence that these programs are effective both in building teacher and administrator capacity in the area of instruction and instructional leadership, respectively, and in increasing student achievement.

The Implementation Model

1. Demonstration Classrooms

Schools wishing to visit a demonstration class complete an application form indicating their improvement planning focus. To minimize disruptions to the demonstration classes, no more than four teachers and one administrator may attend; no more than two school teams may visit a demonstration class per month. On the day of the visit, School Teams meet with an Itinerant Resource Teacher (IRT) for a brief orientation to the class they are visiting. The team then spends the morning in the classroom. In the afternoon, the team has a debriefing meeting with the host teacher and the IRT, followed by time to develop an action plan facilitated by the IRT.

Approximately one month after the visit, school teams are provided with a half day of release time for follow-up planning. Wherever possible, the IRT is part of that team meeting to support team in refining their focus and identifying next steps related to the instructional strategies they will continue to work on in their classrooms. School administrators are strongly encouraged to attend. In addition, school teams can also request that the IRT provide consultative support subsequent to this one month follow up session.

¹ There were also four Kindergarten demonstration classrooms established in 2007-08; these were not part of the focus of the MISA PNC research. These are continuing in 2008-09.

An additional feature of the model is the ongoing support that is provided to demonstration class teachers in the form of release time. This allows them to be part of a Professional Learning Community (PLC) of other demonstration class teachers, supported by the Literacy and Numeracy Consultants. In 2006-07, these sessions were held twice a month; however, these sessions were held monthly in 2007-08 based on feedback from the demonstration class teachers. These teachers are also provided with a small budget for resources or their own professional development; they can also access support from an IRT.

2. Literacy and Mathematics Coaching

Both literacy and math coaches were supported in their roles by the Literacy and Numeracy Consultants and professional development designed to build their coaching and facilitation skills. Five math coaches were assigned to secondary schools based on achievement on the EQAO Grade 9 Mathematics Assessment, as well as to selected feeder elementary schools. Their work with teachers focused on Grades 4 to 10.

In 2007-08, a total of ten literacy coaches were assigned to elementary schools that were designated as Ontario Focused Intervention Partnership (OFIP) 1 or 2 schools, as well as to other schools designated by the SCDSB as Intensive Support schools based on student achievement data. The amount of coaching support (in terms of FTE) was allocated based on school size. In the OFIP schools, the literacy coaches worked with the Literacy and Numeracy Secretariat (LNS) Student Achievement Officers, principals and teachers at the monthly PLC sessions that were held in these schools. They provided similar supports to administrators and teachers in the Intensive Support Schools.

Data Collection Methods and Analysis

1. Demonstration Classrooms

At the one month post-demonstration class visit follow up session, the school team members completed a feedback survey that focused on:

- ✓ feedback about the implementation of the team's action plan and the next steps the team plans to take
- ✓ the supports the team needs to continue implementing their plan
- ✓ concrete strategies teachers tried out in their classrooms in the weeks immediately after the demonstration class visit, along with feedback about successes and challenges.

The feedback form also included a *Teacher Reflection* page for each teacher to complete, as well as an *Administrator Reflection* page. The *Teacher Reflection* asked teachers reflect on any changes they have noticed since they began implementing their plan in terms of student work, achievement or engagement. Teachers were also asked to provide a reflection on their teaching practice, identify next steps in their own classroom and specify the supports they need to continue implementation in their classrooms.

The *Administrator Reflection* asked principals to reflect on any changes they have noticed since teachers began implementing their plan in terms of student work, achievement or engagement. Principals were also asked to reflect on their role as instructional leader, identify their next steps to extend the literacy or numeracy focus and build capacity in their school, and indicate the supports they need to continue.

In the latter part of the school year, school team members were each asked to complete an anonymous *Implementation Follow-up Survey* to gather feedback regarding the following:

- ✓ effectiveness of this model of job-embedded PD
- ✓ value of follow-up reflection and planning time
- ✓ next steps the team members plan to take
- ✓ suggestions for improving the model.

Demonstration class teachers were asked to complete a short survey at their final PLC meeting in the spring of 2008. Questions focused on their successes and challenges in their role hosting a demonstration class. They were also asked for suggestions about how to improve the model in 2008-09.

2. Literacy and math coaching

Trends in Grade 3 and 6 EQAO reading and writing results were examined for elementary schools that had literacy coaches in 2007-08. In addition, the Grade 6 and Grade 9 EQAO mathematics results were summarized for elementary and secondary schools that had math coaches.

Results and Findings

1. Demonstration Classrooms

Based on available records, an estimated 89 school teams observed a *literacy demonstration class*, representing 41 of the SCDSB's 91 elementary schools. These visits were roughly evenly distributed across divisions, with primary classes visited somewhat more often than intermediate classes. An estimated 40 school teams observed a *numeracy demonstration class*, representing 30 schools. The primary and junior numeracy demonstration classes were visited somewhat more often than the intermediate demonstration classes. Thirty-nine schools visited multiple demonstration classes, with more than half attending both literacy and numeracy classes, and roughly 40% attending more than one literacy demonstration class.

One month follow up review: Student Work, Achievement and Engagement

Teachers were asked to reflect on any changes they noticed since they began implementing their action plan in terms of *student work*, *achievement* or *engagement*. One prominent theme that emerged from this analysis was that over half of teachers' comments related to improvements in students' responses. The types of improvement that teachers described was varied, with descriptives such as "longer", "more profound", "more detailed", and "more organized". About one-third of teachers' comments related to the perception that students had become engaged in classroom learning. Beyond these explicit comments on engagement, there were also several comments relating to student enjoyment, engagement with specific texts or resources, students being more focused, involved and participatory, and so on. A further 15% of teachers felt that students were more independent in their work and their goals for improvement. A few other responses indicated that peer-to-peer and group tutoring was increasing, and that students were using manipulatives more often and more effectively.

About one third of respondents explicitly commented on improvements in student achievement. This ranged from increased CASI and PM Benchmark scores to improvement in writing or reading, summarizing or introducing, and reflecting and responding to questions. Many teachers indicated that most students had increased by one or two levels since implementation of strategies. Several respondents commented on the ownership that students were taking of their own work, of their achievement, and of their plans to improve. Other teachers indicated

that they were not yet certain about the impact of the teaching strategies they were trying out on student achievement.

Administrators also offered a range of observations about the impact on student work and achievement. Examples included noticing improved oral communication, greater use of math language, more opportunities for students to work together and for accountable talk through strategies such as think/pair/share and “turn and talk”. Others reported increased time on guided reading, and greater use of such strategies as “two minute writes”, Answer Prove Explain (APE), and anchor charts. Other comments included seeing subtle improvements in written responses and better answers to questions that require students to explain. Increases in student engagement and on-task behaviour were also noted by some administrators.

One month follow up review: Administrator Reflections on Instructional Leadership

On the one-month review form, school administrators were asked to reflect on their role as instructional leaders. Respondents indicated that the opportunity to visit a demonstration classroom with a team of teachers from their school has had a range of benefits for them in their role as instructional leaders. Examples of their comments are provided below:

- ✓ “I find it takes very little to motivate teachers once they have visited a demo class – they return wanting to implement the changes. It is my job to.... help with providing additional PLC time.”
- ✓ “I have attended as many of the demo classes as I could because it helps me to be more informed and able to support the teachers... We have set up additional PLC time to further our goals.”
- ✓ “I need to increase the time I spend in classrooms”
- ✓ “terrific PD experience to have the opportunity to dialogue ... and to witness the positive effects on student achievement and improved teaching practice”
- ✓ “It led to more effective walk abouts to pinpoint implementation of current practice and what is still required”
- ✓ “As an instructional leader, I have found it necessary to make expectations of responsibilities very clear...I feel it is my responsibility to keep up the momentum and ensure the follow through.”
- ✓ “Now [I am] more knowledgeable about current resources and how they can be used effectively.”
- ✓ “It is exciting to hear teachers excited about trying out what they have seen in practice. As an instructional leader, the demo class has helped us create a focus (literacy centres), discuss and plan next steps...”

One month follow up review: Teacher Reflections on Instructional Practice

Teachers who were part of the teams that visited demonstration classrooms provided a range of positive reflections about this experience in relation to their teaching practice. Examples of comments include the following:

- ✓ “I have improved the way I speak math language to students and expect them to reciprocate; have incorporated more oral opportunities through partner and group work.”
- ✓ “I feel more confident in my teaching because students are achieving more. I am realizing that slowing down and explaining in greater detail through modeling is helping them achieve better/understand.”
- ✓ “I have more guidance of where I can improve [my teaching] with the use of journals because I can see where the students need to improve with communication and where I can go with the info...”
- ✓ “I use [student reflections] to help guide the lesson and find areas for reteaching.”
- ✓ “I have been so motivated to change my program and add so many new things,”
- ✓ “I need to remember to assist specific students in choosing their words.”

Implementation Follow-up Survey of Visiting School Team Members

Of the 145 respondents to this survey, the vast majority found the demonstration class model of professional development to be very effective (71%) or effective (27%). The comments below illustrate teachers' views about the effectiveness of the demonstration class model:

- ✓ "It gave us a chance to revisit our current programming in math as well as learn about new resources available to us. It re-affirmed what we were doing well and gave us the opportunity to share current practices in a more relaxed forum."
- ✓ "Overall, this model is an effective way for division teams to get on the same page and create continuity between programs. Being able to see a classroom in action helps more clearly pinpoint areas you would like to improve in and specific strategies to try."
- ✓ "Seeing a class in action is much more valuable than being lectured at. Post discussing and relevant handouts were also very valuable. Visual/auditory hands on experiences address the needs of the majority of learners."
- ✓ "Never have I had such worthwhile PD in my 14 years with SCDSB. Relevant, efficient... fits my schedule and fits my needs. The demo class gave us a focus. Keep it coming!!!"

Team members were also asked to rate the value of the additional release time which allowed them to meet approximately one month after their demonstration class visit. The majority found this time for reflection and further planning of next steps to be very valuable (62%) or valuable (27%), with teachers making comments such as the following:

- ✓ "It made us more accountable to the Action Plan, knowing that we would be meeting to discuss what we had changed/tried and reflect on."
- ✓ "The additional release time allowed our team time to plan our next numeracy unit based on strategies observed at the demonstration site. We were also able to brainstorm and reflect on changes we were making in our numeracy programs. The time was very valuable."
- ✓ "Could not begin to say how absolutely positive the effect these classes had on assisting our school in moving ahead toward our goals."
- ✓ "Our division plans as a team as often as we can and it was great to be given the time and opportunity to do so once new strategies were suggested. Unfortunately our time was severely limited as we didn't see our most valuable model classroom until term 3. Hopefully we'll be able to implement ideas fully and effectively in 2008/2009."

The majority of respondents also articulated the next steps they plan to take to implement their action plan. Close to one third said they plan to continue with what was implemented or already in place and about one fifth plan to add to or improve on what they have worked on so far. Others indicated that they plan to hold regular team meetings to plan and discuss or that they intend to purchase resources and set up common assessment tools. Comments included:

- ✓ "Our major focus will be to increase formative assessment by using a "post-it note" approach. We feel this holistic method will allow us to instantly assess, reflect and adjust our teaching to meet the needs of both the group and the individual student."
- ✓ "Keep in touch with grade partner next year to monitor professional growth and implementation of new teaching methods. Discuss new books recommended during visit."
- ✓ "We plan to improve our literacy centres (building a greater repertoire) and have a 2 year plan for our Poetry Books. Also, we have started tracking more regularly our "at-risk" students."
- ✓ "More consistent planning of shared reading lessons using Literacy Place Resources. Continued differentiated instruction. Ongoing coordination of planning /release time with teacher partner."

Demonstration Class Teachers' Feedback

Demonstration class teachers were asked to complete a short survey at their final meeting in the spring of 2008. Questions focused on their successes and challenges in their role hosting a demonstration class. They were also asked for suggestions about how to improve the model in 2008-09. All 9 of the literacy demonstration class teachers attended this session along with [X] of the numeracy teachers. Fifteen demonstration class teachers completed the survey.

From the perspective of the demonstration class teachers, this professional development project was a success and should continue. When asked for the positive or successful aspects of their participation as demonstration class teachers, one third of the teachers mentioned that receiving positive feedback from the visiting teachers was important to them. Almost one third of teachers cited improving their own practice as a positive outcome, as well as having the chance to discuss various teaching strategies with others. Although the focus of this project is to provide a professional development opportunity for visiting teachers, several of the demonstration class teachers mentioned the reflective nature of the project and how the project helped them improve their own practice. As one teacher put it, "I became more reflective of my own teaching practices; as I spoke to my colleagues during the debriefing sessions I was able to better understand how and why I implemented my program in the manner that I do - thus improving my teaching." When asked to outline any challenges they encountered in their role, three teachers cited time for preparation, debriefing and meetings. A similar number found it challenging to determine exactly which strategies and lessons would be useful for visiting teachers to observe. Individual teachers commented a variety of other issues.

Demonstration class teachers were asked for their perceptions of influence in their own division, school and family of schools. They reported learning from their visiting colleagues. They also believe that, within their own school, the project has led to increased professional dialogue, increased visiting of each other's classes, and greater sharing of teaching strategies. Overwhelmingly, teachers perceived increased collaboration within their own schools as a result of this project, as illustrated by the following comments:

- ✓ "Our Division is now 'on the same page' with respect to problem-solving models, the use of our texts [as support] and using manipulatives—Differentiated Instruction! What a great change."
- ✓ "I have had wonderful opportunities to collaborate with my division and I want to continue to do so."

About one third of respondents also believe that the demonstration class project has led to greater communication with the other schools in the family of schools. This is illustrated by one teacher whose principal said to her that the demonstration class project has been a catalyst for discussion at principals' meetings.

All 15 of the teachers who responded enthusiastically endorse the demonstration class teacher role and would recommend that colleagues consider it for themselves. This overwhelming support is an indication of how valuable they found the experience to be for them personally and professionally. Two thirds of these teachers indicated that they would be definitely or possibly be willing to continue in the role in 2008-09. The reasons cited by the five remaining teachers for not continuing were varied. In one case, the demonstration class teacher had agreed to serve as a coach, whereas two other teachers were moving to a different school.

2. EQAO Results for Schools with Literacy and Math Coaches

In 2007-2008, Literacy coaches were provided to Ontario Focused Intervention Partnership (OFIP) 1 and 2 schools, and schools identified by Instructional Services and Research and Evaluation Services for intensive support based on evidence of need. Coaches were funded

through a combination of OFIP funds from the Literacy and Numeracy Secretariat (LNS) and budget approved by the Board of Trustees. The principals of these schools also participated in monthly Professional Learning Community (PLC) sessions, designed to support them in their role as instructional leaders and provide opportunities for sharing effective practices to increase student achievement. Despite the fact that some of the literacy coaches were not in place until part way through the school year, these schools showed greater overall one-year gains in Grade 3 and 6 reading and Grade 3 writing achievement than other schools in the SCDSB (see APPENDIX A). These improvements in student achievement reflect the combined impact of coaching support on classroom instruction, and PLC support on instructional leadership in these schools.

In 2007-2008, math coaches were assigned to work in 6 secondary schools on the basis of achievement on the EQAO Grade 9 Mathematics Assessment. APPENDIX B disaggregates the EQAO results based on whether schools had a math coach. It should be noted that the implementation of math coaches began in three of these schools in 2006-2007; hence, three years of results are provided. Compared to 2006-2007, there was a substantial 10% increase in Grade 9 academic math results averaged across the schools with math coaches, considerably greater than the 1% increase in other schools. The 2% increase in applied math results for the schools with coaches countered the 5% drop in achievement that was evident across other schools as a whole.

Reflections and Action

The feedback received to date indicates that elementary school teams have found the demonstration class model to be very effective in supporting their efforts to try out new high yield instructional practices in their classrooms. Administrators' feedback suggests that attending the demonstration classes with their teams has enhanced their capacity as instructional leaders. Principal participation also ensures that the team of teachers has administrative support to try out new strategies in their classrooms and maintain the focus on their action plan. This type of collaboration is essential to sustained improvement efforts at the school level. The Board-wide focus on implementing school-based PLCs, led by principals, is key to ensuring that all teachers have opportunities to share their professional learning journeys as they try out new instructional practices in their classrooms.

We know one visit a demonstration class by itself is not sufficient to alter teaching practice. Our vision has been to transform demonstration classrooms into Professional Collaboration Sites by requiring that schools make connections to their school improvement plan and determine their focus prior to the class visit. Opportunities for collaboration have been enhanced by releasing the demonstration class teacher for a debriefing session with the visiting school team, as well as providing team planning time immediately following the visit and again one month later.

It is noteworthy that just over half of respondents to the one month feedback survey indicated that they were just beginning to implement their team's action plan. The fact that some teachers were not yet certain about the benefits of the instructional practices they were modeling from their visit to the demonstration class is thus not surprising. Research on implementing educational innovations, using frameworks such as the Concerns Based Adoption Model, suggests that teachers go through several stages when working towards integrating new instructional strategies into their teaching practice. This includes a stage often referred to as "mechanical" when logistical and classroom management issues dominate teachers' concerns. At this stage, implementation of these new strategies is not a smooth part of their daily practice and may be accompanied by a range of challenges including so-called "implementation dip".

The feedback from demonstration class teachers about the topics that visiting teams most often wanted to discuss during the debriefing sessions has helped inform Instructional Services about the professional learning needs of teachers. The main topics cited include assessment strategies, the use of different teaching strategies and resources, grouping of students and organizational issues. In 2008-09, assessment strategies will become a greater focus of the demonstration class visits. Demonstration class teachers also commented on the importance of the preparation and debriefing meetings. While administrator participation in these sessions was strongly encouraged in 2007-08, principals were not always able to take part with their teams for a variety of reasons. The importance of principal attendance will continue to be emphasized this year.

One of the SCDSB's areas of focus has been supporting learners through differentiated instruction using a variety of approaches including the use of technology. This focus has included training for teachers over the past two years in the use of assistive technology for students with special education needs. In addition, two technology focused demonstration classrooms have been established in 2008-09, one in the junior division and one in intermediate, to support teachers in using technology effectively in their literacy and numeracy instruction,

The informal feedback regarding demonstration classrooms at the secondary level suggests that a different approach, based on a PLC model, would provide the sustained supports needed to meet the learning needs of secondary school teachers. Thus, Teacher Learning Communities (TLC) Project was designed and is being implemented in each of our 16 secondary schools in 2008-09. The TLC Project is an innovative approach to provide teachers with ongoing, job-embedded, differentiated professional development. The aim is to create a sustainable support network of collaborative colleagues that will aid teachers in gaining a broader understanding of pedagogical practices in the areas of instruction, assessment, evaluation, and reporting as identified by current research. The TLC Project has been designed to incorporate the concept of distributed leadership with the gradual release of responsibility to teachers to assist them in developing 21st century learning environments.

In 2008-09, each SCDSB secondary school's TLC Project is starting with an ***Interdisciplinary Teacher Learning Community*** (iTLC) ideally consisting of:

- six to eight (6 to 8) teachers who represent different subject or support areas
- the school's Student Success Teacher
- the TLC Project Facilitator (PF), a teacher in the school who is provided with release time to facilitate the work of the iTLC by coordinating the focus and/or direction of the group's professional development work, including its meetings.

For the purposes of this project, a ***TLC*** is defined as a group of teachers who:

- volunteer to be participants
- provide collegial support for each other by collaborating on the individual members' classroom practices
- promote the adaptation and inclusion of high-yield instructional strategies and assessment ***for*** learning methods into their individual practices
- meet regularly (every four to six weeks is recommended) with release time to support members in carrying out their personal action plans for refining classroom practices.

Contributions to the MISA PNC

Demonstration classrooms and coaches are strategies that have been advocated by the LNS Student Achievement Officers who have supported Boards as they implement their OFIP plans to increase student achievement. The qualitative feedback gathered last year about demonstration classrooms serves as a 'formative assessment' which is guiding the SCDSB's Instructional Services team as we continue to refine our approach to supporting teachers and administrators' professional growth through a range of job-embedded strategies. The improved EQAO results found for schools with literacy and math coaches is also very encouraging and indicates that such strategies lead to gains in student achievement. It is our belief that the learning that arises from our research on the implementation of demonstration classrooms and literacy coaches may also be informative for other boards that are considering or are in the process of implementing similar professional learning supports. We hope that our project will provide useful information about how to ensure that the learning is consolidated and acted upon in teachers' and administrators' daily practice in order to impact student learning.

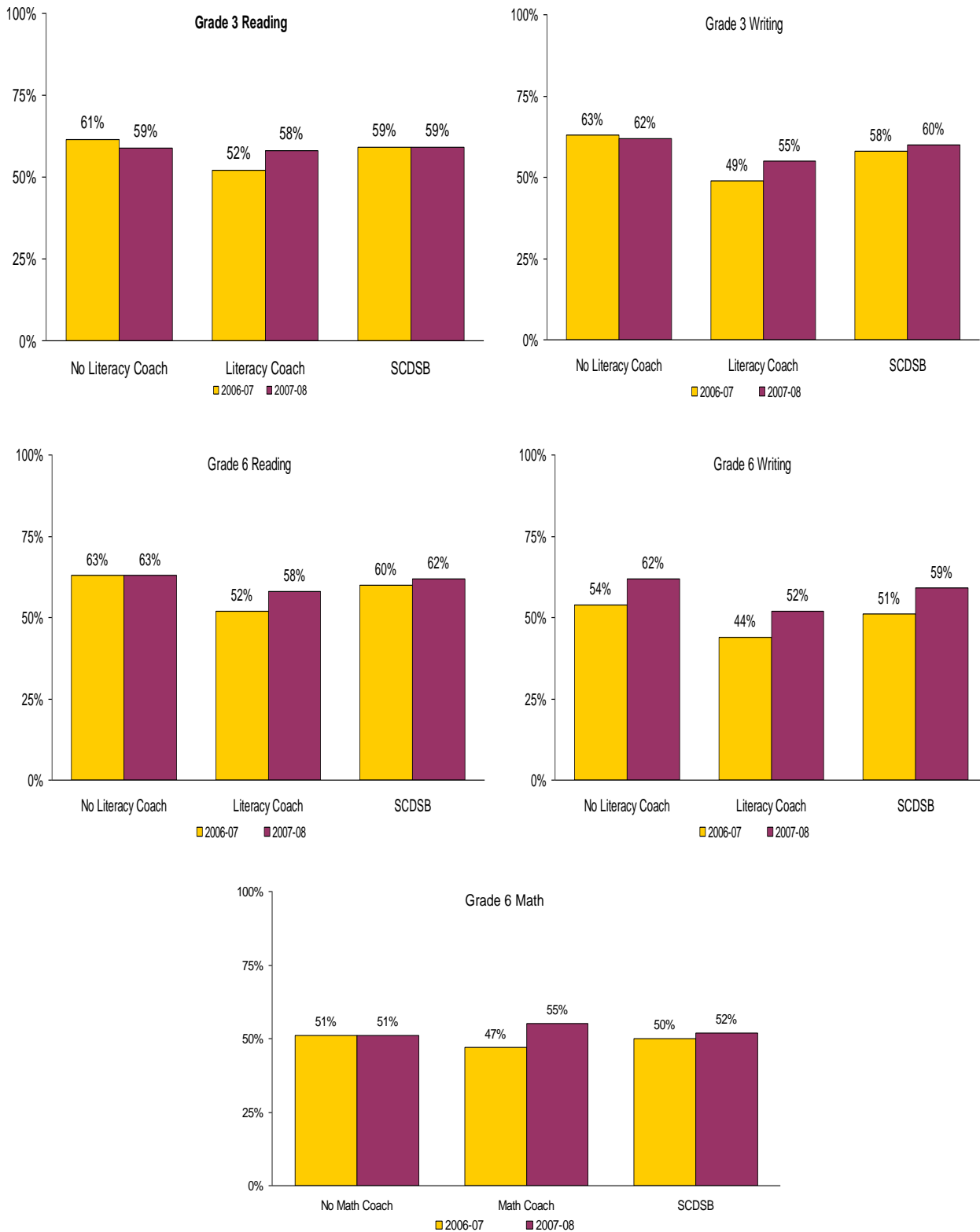
Suggestions for Future Research

We are in the process of refining the feedback forms based on the responses from school teams in 2007-08. In addition, a web-based teacher reflection survey has been designed for the TLC project to provide ongoing formative feedback to guide implementation of this initiative.

We concluded that it was premature to examine EQAO results for schools that sent teams to demonstration classes given that these teams varied widely in the divisional focus for the demonstration class visit. Schools and school system generally implement multiple innovations at the same time, making it difficult to determine how much of the change in student achievement and teacher practice is due to each innovation. We are currently documenting schools' participation in various initiatives and the supports they have received. We will begin to examine trends in student achievement for elementary schools that have sent teams to demonstration classrooms as well as continue to monitor achievement trends for schools that have coaching and other types of support in literacy and mathematics.

APPENDIX A

EQAO Results for Schools with Literacy and Math Coaches Percentage of All Students At or Above the Provincial Standard (Levels 3 and 4)



APPENDIX B

EQAO Results for Schools with Literacy and Math Coaches
Percentage of All Students At or Above the Provincial Standard (Levels 3 and 4)
2003-2004 to 2007-2008

