Leading for All

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The Code Special Education Project

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Chapter 1. Introduction

The Canadian province of Ontario is a widely acknowledged and acclaimed leader of educational achievement. In discussions and debates about international achievement comparisons and their policy implications, Canada is the third highest performing country in the world on the most widely cited assessment – OECD's Program in International Student Assessment (PISA). Within Canada, the province that has received the greatest attention has been Ontario (OECD, 2011; OECD/Pearson, 2011, National Center for Education and the Economy, 2011). The reasons for this include, and also extend far beyond, Ontario's academic accomplishments:

- *High Immigration*. Nearly 30% of Ontario's population is foreign-born, and there is little or no difference in results on PISA between children from immigrant families and Canadian-born children – making it a much more realistic model for change for those countries that have much higher levels of diversity than Finland, for example (OECD/Pearson, 2011).
- *Large Population*. With a population exceeding 13 million and a system containing nearly 5000 schools (Levin, 2008), Ontario operates on a scale that is more comparable for many foreign visitors and leaders, than smaller jurisdictions such as Singapore, Alberta, Finland or Hong Kong with populations less than half that size. Indeed, were it part of the U.S., Ontario would rank fifth in population among the states, between Florida and Illinois.
- *Language*. Ontario mainly operates and communicates in the English language, making its work easily accessible to interested visitors in meetings, print and other media.
- *Politics and Administration*. Ontario has a structure of school boards and a form of Western political democracy that is more recognizable to leaders of Anglo-American and European educational systems than the systems and politics of most Asian countries.
- *Policy Focus*. The province's recent policy focus on making measurable achievement gains and narrowing achievement gaps in tested literacy and numeracy and in high school completion rates (Levin, 2012), is close enough to the architecture of target-driven systems in places like the England, the U.S., Australia, and other countries now moving in this direction such as Sweden and New Zealand, to make it feel familiar. At the same time, the policy strategy is sufficiently distinct from that of many other countries, especially in terms of its greater investment in developing "professional capital" (Hargreaves & Fullan, 2012), to attract their curiosity about how they might make further progress.
- *Performance Record*. Alongside its high-level performance on PISA, Ontario has enhanced the credibility of its approach by demonstrating success on its own measures, securing gains over 4-5 years of around 14% more children reaching proficiency in reading and of 13% more students graduating from high school since 2004 (Levin, 2009; Fullan, 2009).
- *Strategic Clarity*. Ontario's high performance has benefitted from the political leadership of the province's Premier, Dalton McGuinty, who has made educational reform a key component of his political platform. It has also been advanced by involvement as Premier's education advisor, Michael Fullan (2009), and the administrative leadership of former deputy minister Ben Levin (2009). They have eloquently articulated Ontario's reform strategy through many high profile publications and through maintaining close associations with leaders in cornerstone international organizations such as OECD (2010, 2011) and McKinsey and Company (2010).

Commentators as varied as the Education Indicators Branch of OECD (2010, 2011), and McKinsey and Company (2010), as well as the province's own intellectual advocates and advisors, have explained

Ontario's exemplary performance mainly in terms of a reform strategy comprising a set of policies that have

- placed a focus on literacy and numeracy, as well as high school completion;
- clearly defined and persistently pursued measurable targets in student achievement;
- involved major stakeholders in the development and delivery of the strategy - including the teacher federations with whom the provincial government established conditions of peace and stability;
- avoided punitive interventions where schools showed evidence of struggling and instead provided extensive support systems of training, coaching and networking to help teachers and schools improve achievement; and
- created data systems to track progress and intervene in real time whenever students or schools appeared to be falling behind.

This strategy has been the planned, stated, received and recommended (OECD, 2010, 2011; McKinsey & Company, 2010; National Center for Education and the Economy, 2011; Barber, 2007; Fullan, 2003, 2006, 2009; Levin, 2009) theory of change in the province.

As OECD (2011) itself acknowledges, in as complex a setting as provincial, state or national education policy, it is difficult – if not impossible – to attribute achievement gains to one particular policy or another (see also Loveless, 2012). Accordingly, we need to consider how *a wide range* of policy strategies and their interactions may affect student achievement in high performing and rapidly improving countries. This review and report addresses one such aspect of Ontario educational policy.

Given Ontario's performance record and global profile, undertaking an independent investigation of any aspect of educational reform in the province is a matter of importance for the province itself, and also for those who are launching or assessing educational reform efforts across the world. This report is based on an investigation and review of one significant component of Ontario's overall reform strategy: the implementation of a major report on special education that addressed how to provide better services and support for the province's highly diverse student population, including but not restricted to those with formally identified needs.

Special education policy history

Over the past half-decade, provincial policies governing special educational needs have moved from an era of external enforcement of placements to more localized and professional discretion concerning ways to create more inclusive environments for all students. The movement towards greater educational inclusion for students with special educational needs began in the 1960s with dissatisfaction about reforms in the general education curriculum. Some special educators began to argue "that most children with exceptionalities were better served when they stayed with their peers in a regular classroom" (Gidney, 1999, p. 153). Although there were many advocates for mainstreaming, legislation that called for additional services for students with special educational needs, particularly 'Bill 82', was not established until the late 1970s and early 1980s. At this time, "inclusion was defined as a placement, not as the provision of programmes and services within the placement" (Jordan, 2001, p. 353).

In the 1990s, the emphasis of educational reform was redirected from resource inputs to measurable outputs in the form of benchmarks and outcomes in the case of the New Democratic Party government, and standards and high-stakes examinations in the case of its Progressive Conservative successor. The latter's policies in particular mandated universal achievement, but by standardizing many other aspects of the curriculum and reducing resources available to public schools boards, they left teachers without the tools to implement these ideas.

Education for All

In 2005, the Ontario Ministry of Education published a report based on the findings and recommendations of an expert panel that formulated guiding principles for more fully educating students with identified special needs. The visionary new provincial policy document, Education for All (EfA), sought to "assist teachers in helping all of Ontario's students learn, including those students whose abilities make it difficult for them to achieve their grade level expectations" (pp. 4-5). The document set out seven

guiding principles to help teachers and administrators meet the needs of all students.

1. All students can succeed.
2. Universal design and differentiated instruction are effective and interconnected means of meeting the learning or productivity needs of any group of students.
3. Successful instructional practices are founded on evidence-based research, tempered by experience.
4. Classroom teachers are the key educators for a student's literacy and numeracy development.
5. Each child has his or her own unique patterns of learning.
6. Classroom teachers need the support of the larger community to create a learning environment that supports students with special education needs.
7. Fairness is not sameness.

In *EFA's* vision, curriculum and instruction are made accessible to more students through the transformation of mainstream teachers and classrooms, rather than through reliance on separate placements. Teachers are encouraged to cultivate inclusive placements and practices by adhering to principles of universal design for learning, differentiating instruction, and analyzing as well as responding to student data within teachers' professional learning communities.

In May 2005, the Ministry of Education allocated $25 million to the Council of Ontario Directors of Education (CODE)—directors in Ontario being the equivalent of US school board superintendents—to develop and implement a plan to support the recommendations in *Education for All.* The CODE Special Education Project for 2005-2006 was designed to assist school boards across Ontario in generating lateral capacity-building projects to enhance teacher professional practice and to improve academic achievement for students with special education needs. In time, this project came to be called *Essential for Some, Good for All* (ESGA) and, eventually, it extended over three years.[1]

The CODE Leadership Team designed the project. The components of the project's architecture included the development of a consistent, equitable and transparent application, selection, distribution, monitoring and reporting process. The architecture also involved the creation of a subsequent ESGA project Leadership Team to mentor and support the development, implementation and evaluation of each board's plan once the work of the project was underway. An additional feature was the decision by CODE to allocate an equal amount of funding to all boards regardless of their size. A prime focus was to make a one--time change in the way that school districts structured their interactions between curriculum and special education staff, at the board level and also within the schools, so that these interactions became more frequent, focused, effective, and integrated. The goal was to "break down the silos" between those who had responsibility for special education students and those who had responsibility for the rest, so that everyone would develop a sense of collective responsibility for all students.

Some of these and other design features were established in advance of the project's implementation, and others emerged through improvised planning as the project evolved (Louis & Miles, 1990). Over the course of the next two academic years, the Ministry provided additional resources to support the initiative. In 2009, CODE partnered with researchers from Boston College to conduct a review of ESGA overall.

Chapter 2. Research Purposes, Questions and Design

Ten Ontario school boards (just under a seventh of all 72 boards in the province) volunteered to participate in and fund the review of the ESGA project.

Research Questions:

Through a collaborative planning process with representatives from the ten participating school boards, three research goals were established for the review:

- To understand and articulate the architecture and design of the ESGA project and its undergirding theory of action, so that both can be communicated clearly to participating boards and diffused more effectively to other jurisdictions, in Ontario and worldwide;
- To gather perceptions of the ESGA projects' strengths and limitations, impact and effectiveness from samples of individuals and focus groups who participated in the project and whose boards possess different characteristics and exemplify different approaches to project design and implementation;
- To connect these findings to an analysis of the existing evidence base of measured student achievement (local assessments and EQAO), in order to determine associations between variations in the intervention model and the conditions of implementation on the one hand, and student achievement results on the other.

Methodological approach

The methodology for this study is underpinned by a distinctively bilateral approach:

Research sample

Although the research sample of ten school boards is self-selected, the boards broadly represent Ontario's diversity with respect to size, geographic and demographic variation and other opportunities and challenges. Nine of the ten boards are located in Ontario's main population corridor, from Windsor through metropolitan Toronto to Ottawa. One board is located in the far northwest.

Appreciative inquiry. Developed by Cooperrider and Whitney (2005), appreciative inquiry is commonly applied in organizational change because it directs participants to focus on what works within the program or organization, and is therefore appropriate for making explicit the principles and achievements of high-performing organizations such as Ontario's school system; and

Critical friendship. In educational reform and school improvement, the term "critical friend" is used in a number of ways (Swaffield, 2005). A commonly cited definition describes critical friends as those who raise provocative questions, and provide critiques of a person's work from a friend's perspective (Costa and Kallick, 1993). Such "trusted colleagues" have "technical abilities" and "interpersonal qualities and skills as well as time, energy and the practice of reflecting" on practice (Day, 1993, p. 88). Drawing on this conception, the BC research team served as critical friends, working with the ten participating boards to address and inquire into the project's three key research questions concerning the architecture of ESGA, its strengths and limitations, and the relationship of its work to educational outcomes.

At all times following the initial framing of the proposal and of the beginning research questions, each stage of the research process has involved all of the districts working with the Boston College design team in reviewing design features, creation of instruments and interview schedules, protocols for site visits, interpretation of results, validity of case reports, nature and accuracy of findings, and implications and recommendations arising from the research. These processes were undertaken during day-long retreats with board participants at every stage of the research process.

The research team was subsequently able to determine the achievement profile and achievements gaps in provincial standardized test scores for the student population as a whole, and for those students with special educational needs in particular, within each school board and across all but one of the boards in the research sample. These figures were compared with the other (non-participating) boards in the same sector. Taking the Grade 3 EQAO results in reading and writing

in 2004-05 as a baseline, the participating boards were very similar to their non-participating peers with respect to the overall percentage of students meeting or exceeding the provincial standard. This similarity extends to the proportions of students identified with special needs and the percentages of those students who met or exceeded the professional standard (Appendix 1). Table 2.1 provides background details and characteristics of the ten boards. They represent all three Ontario school sectors [Public (English), Catholic (English), and Francophone], as well as urban, rural and suburban locations.

Table 2.1.

Details of participating school boards (arranged in descending order by number of schools)

Board	Sector	No. of schools	No. of elementary schools	No. of secondary schools	Student population
1	Public	199	165	34	115,000
2	Catholic	145	119	26	87,000
3	Public	113	95	18	50,000
4	Public	77	61	16	35,350
5	Public	66	53	13	26,000
6	Catholic	50	40	10	15,000
7	Catholic	48	40	8	29,000
8	Catholic	37	31	6	15,000
9	Francophone	38	29	9	7,700
10	Public	24	19	5	5,446

Research methods

A mixed methods research approach was used to address the research goals in this study. Mixed methods research is commonly used in the evaluation of educational reform because it "offers the potential for deeper understandings for some education research questions that policymakers need answered" (Viadero, 2005, paragraph 14). From the suite of possible mixed methods designs, this study used what is known as a convergence triangulation design (Creswell & Plano Clark, 2007) in which quantitative and qualitative data are first collected and analyzed separately on the same phenomenon, and then the different results are converged by comparing and contrasting them during the interpretation stage of the project.

The research team conducted 3-day site visits at each participating board, involving at least one of the principal investigators and from one to three research assistants who were rotated in different combinations across different visits to enhance cross-case and cross-team understandings of all the sites and the issues arising from them. Table 2.2 outlines the procedures that were used during each visit. To ensure consistency in the data collection and to support the data analysis, the research team adopted a standard schedule of activities.

Table 2.2

Data collection protocol for each site

Day	Data collection procedures
1	• Interview board office personnel, including the Director of Education, Special Education Superintendent, other superintendents, central office administrators, consultants and coordinators
2	• Visit two schools (includes classroom observations) • Interview principals and vice-principals • Conduct individual interviews or focus groups with other school personnel, including classroom teachers, special education resource teachers, and other specialists
3	• Review issues with board office personnel • Analyze board-level data on student achievement and other indicators pertinent to the project goals

Consistent with the mixed methods design, the review of ESGA comprised qualitative and quantitative research components.

Qualitative component

Interview data were obtained through one-hour, semi-structured, digitally-recorded interviews with policymakers, CODE and ESGA leaders, board staff (e.g. superintendents), principals, Special Education Resource Teachers, coaches, teachers, and other educators working at the schools and boards. In some boards, the research team met a large number of teachers through focus group interviews and discussions. Other sources of qualitative data included media reports, curriculum documents, teaching resources, photographs, websites, and existing compilations of achievement data.

The interview protocol (Appendix 2) was developed collaboratively with the Special Education Directors of the ten participating school boards. Its questions were designed to address:

- the design or architecture of the intervention model,
- the ESGA project components and their interrelationships,
- the variation of these components across the school boards and over time,
- the relation of the intervention to existing and preceding special education policy,
- the monitoring and mentoring processes deployed by the CODE leadership team,
- the perceptions of the project's effectiveness and impact on both student outcomes and professional practice,
- the perceptions of supports for and barriers to project goals, within the board and within the wider context of education policy in the province, and
- the perceptions of the sustainability of reforms and predictions of future changes.

The interview data were transcribed, categorized, and then analyzed using the constant comparative method (Charmaz, 2000; Glaser & Strauss, 1967). Following each site visit, a detailed case study was produced, documenting each board's experience based on initial descriptive themes such as: context, the CODE story, reflections and reactions, and sustainability and legacy.

To ensure credibility and confirmability in the interpretation of each case (Lincoln & Guba, 1985), these 'thick' descriptions (Geertz, 1973) underwent member checks as all research participants were invited to review and comment on each individual case report. Each case study was critiqued by a fellow team member who had visited the same site, then by another member who had not participated in the site visit, and then by the Principal Investigators. Following the revisions by the Boston College research team, the board staff then reviewed their respective case reports, provided feedback, and either verified the accuracy of the thick descriptions or advanced alternative interpretations. At each member check session, topics that were discussed included, but were not limited to, the overall framework, quality of analysis, missing data, purpose of the board's project, and the successes and challenges in meeting their target. The reports were then further revised based on the feedback. To facilitate this second stage of the qualitative study, each individual case report was organized using the same initial analytical themes: executive summary, context, CODE project overview, project participants, implementation strategy, outcomes and project reflection.

After the boards had approved their case studies, and in order to conduct higher level analyses, the research team then generated a series of cross-case reports, each one focusing on a specific theme. The cross-case analyses provide a basis for generalizability of findings (Stake, 2006) in terms of deepening understanding and explanation through an examination of the similarities and differences across boards (Miles & Huberman, 1984, 1994), and by identifying the unique or "atypical" qualities of the individual boards as well (Stake, 2006, p. 54). This report presents six cross-case themes that emerged from this stage of analysis:

- Curriculum and Pedagogy
- Assistive Technology
- Professional Culture, Capital and Development
- Cultures of Data Use
- Responsive Diversity Practices
- Inclusion and Accountability.

In addition to summarizing the evidence relevant to the theme, each cross-case report also includes pen-

pictures of selected boards at various points that illustrate how the theme plays out at the local level.

A similar process took place with regard to interviews with ten senior policy makers connected with the project – former and current deputy Ministers and their Assistants, Ministry staff with high level responsibility for special education, and system leaders with responsibility for designing, developing and implementing the project initiative.

Two procedures were used to develop patterns and themes for the cross-case analyses. First, deductive and/or inductive coding (Miles & Huberman, 1984) were used to generate common themes across the ten cases. In deductive coding, codes were created *a priori* based on existing relevant literature and also on the research questions (Miles & Huberman, 1984, 1994) while inductive coding applied the constant comparative method (Charmaz, 2000; Glaser & Strauss, 1967) of looking for similarities and differences then actively checking for disconfirming data or cases that did not fit the provisional interpretation in order to move the analysis to a higher level that accommodated divergence and discrepancies in the data.

The second method of cross-case analysis involved "quantitizing" aspects of the qualitative data in terms of counting the numbers of times particular words, phrases or events occurred within the case studies (Miles & Huberman, 1994; Sandelowski, Voils, & Knafl, 2009) in order to provide richer details regarding commonalities across boards. The counting process contributes to the descriptive (getting the details right), interpretive (getting participants' experience and interpretations correct), and/or theoretical (coming up with an interpretation that is true to the facts) validity of the study (Sandelowski, 2001).

Quantitative component

In the course of each site visit, the project team spent a half-day at each of two schools, touring the facility and interviewing professional staff. To supplement these school-level investigations, a web-based survey was also administered to school staff in a sample of schools in nine of the ten participating boards in order to elicit a wider range of data concerning participants' responses to the ESGA project's design and intent, as well as information about the context in which they did their work[2]. The ESGA leadership team provided feedback on an early draft of the questionnaire. The primary contact in each board helped to customize the survey so that the terms related to ESGA would be familiar to staff in the board. The questionnaire was organized into three sets of questions that:

- elicited the respondent's demographic information and professional experience;
- related to various aspects of ESGA, with selected response options (e.g., strongly disagree → strongly agree);
- probed more complex issues, allowing free-form open-ended responses.

A generic version of the questionnaire can be found in Appendix 3.

In consultation with the primary contact person in each board, the project team decided on the schools to be included in the survey, with the key criterion being that the schools concerned had some degree of involvement with ESGA. The number of schools selected varied from board to board. The survey was administered through Qualtrix.

Once the board-specific survey was ready, the primary contact person sent emails to all professional staff in the target schools with an individualized link to the questionnaire. Through the "informed consent form" that preceded the questionnaire, staff was clearly told that participation was voluntary and that individual responses would be anonymous. In most boards, reminders were sent to encourage greater participation. Each board had a three-week window in which to submit survey responses. Overall, the quantitative data were collected from November 2010 through February 2011. One board provided two samples of respondents as it had implemented two different initiatives. Another board submitted the results by school, rather than by individual. In that board, 15 schools responded. The number of individual level responses ranged from 32 to 139.

In addition to the survey results, the research team examined Grade 3 EQAO results for the boards and identified relevant patterns, as well as departures from overall trends in order to provide a comprehensive description of board outcomes for the period in question.

Ethical Considerations

Once agreement was reached to have a team from Boston College conduct this study, the principal investigators completed an IRB application, which was approved by the Boston College IRB Committee. The application detailed the purpose of the study, the protocols to be followed, the use of informed consent forms and the procedures to maintain confidentiality. The following year a supplementary application was submitted that contained the full web survey questionnaire, including the informed consent form.

At each site visit, all interviewees were given an informed consent form. Only after the forms had been signed were the interviews begun and the recorder turned on. A detailed, draft case study was prepared for each board, as well as a separate draft report based on interviews conducted with policy makers on a different occasion. Each draft case study was sent to the liaison in the board with the directive that all interviewees were to review the draft and indicate suggested changes related to the accuracy of the document (statements or quotes) or their desire for anonymity. The suggestions received were implemented and final case studies were prepared and returned. The full case studies were, for confidentiality reasons, made available only to the relevant participating board in each case. These extended case studies used the actual names of the participating boards. Where any controversial or critical statements were made, care was taken to present responses in ways that protected the anonymity of participants. Similarly, the draft policy report was sent to all interviewees with the same instructions.

Given the seniority and visibility of some of the respondents, statements were, with participants' consent, sometimes included in ways that were identifiable since identification of particular roles and responsibilities was integral to the policy analysis. Any statements that were more critical of policies, for which administrative superiors were responsible, were presented in ways that protected the anonymity of the data sources. On the basis of responses received from the site participants, a final report was prepared in each case.

The web survey instrument was designed so that the first screen contained the informed consent document. Only after respondents had agreed to participate did they have the capability of calling up the screens containing the survey questions proper. Survey responses were sent directly to Qualtrix to ensure the anonymity of the respondents.

A final report was prepared in which the participating boards were anonymized through the assignment of numbered codes from 1-10. This preserved the anonymity of the participating boards and especially of the participants and their responses within them. The procedures for establishing anonymity were discussed collaboratively with the representatives of the ten participating boards and incorporated in the final design with their full involvement and consent. The final report was read and commented on by these board representatives as well as by the ESGA steering team to heighten validity and to check for anonymity, and the feedback was incorporated into the final

In this, as in other reform environments, there are significant challenges in inferring causal linkages between a particular policy and a specific set of outcomes. First, because boards were given considerable latitude in choosing grades, students and schools to target in the ESGA initiative, within the parameters of the K-6 focus of EfA, it was often difficult to identify the "treatment group" and an appropriate comparison group for a given year, or to isolate the relevant EQAO data for any particular group. Second, boards were engaged in a number of initiatives simultaneously, so that isolating the impact of ESGA or, indeed, of any other initiative on achievement results, is not possible. As we shall see, this overlap with other initiatives was not just happenstance but a deliberate design feature of ESGA's architecture of change. Together, these limitations made it very difficult and often impossible to provide clear responses to the study's third research question concerning the effects of ESGA on student achievement results in each board.

This in-depth, mixed methods review triangulates the responses from different levels and perspectives and provides one of the deepest and richest investigations of educational reform in general, and special educational reform in particular, in Ontario, over the past decade. Large scale reforms such as the one investigated here are complex in their design, and are often not fully clear to individuals who participate in

or attempt to implement them. By taking a mixed methods, multifaceted approach, the complexity of an initiative's design becomes more apparent when it is viewed at different levels and from different perspectives. This issue of ESGA's architecture and design is the first one that this report addresses.

Chapter 3. The Architectures of Change

All reforms have an origin or point of creation. This may be recalled as a specific incident but it is more often a coming together of multiple factors and forces. The origins of the project that came to be known as *Essential for Some, Good for All* comprise one of the key policy-level issues that this section addresses. All reforms also have an explicit or implicit architecture or design – a purpose that has to be achieved, elements and materials that will be used for a model that will achieve that purpose, principles and practices that will arrange those elements in a particular way, and processes to adjust and refine the design over time as problems surface and the environment becomes better understood. In the architecture and design of organizations, these components include not just budgets and materials, but also ideas about how people and communities develop and change and about the best ways to motivate and monitor them so they secure the desired outcome (Hargreaves & Fullan, 2010).

Understanding change architectures

Architectures of change may be explicitly articulated or implicitly assumed; they may be designed in detail in advance so that the implementation or delivery mechanisms are clear from the outset (Barber 2007, Fullan, 2003), or they can evolve adaptively as the change unfolds (Louis & Miles 1990, McLaughlin, 1998, Datnow, 2006; Honig, 2009); and they may be successful or unsuccessful in their impact and outcomes.

In *Diagnosis and Design for School Improvement*, Spillane and Coldren (2011) point out that design is not just the province of architects and fashion designers. Design, they say, is "an everyday activity" in which all of us participate, to some degree. Design is "the everyday, sometimes mundane, pursuit of molding aspects of our particular situation in purposeful ways to address some particular goal or function" (p. 5). Some people design their kitchens or their gardens. Educators have been designing curriculum for decades. People also design how they will bring about change in a system or a school.

Architecture is equivalent to design and also extends beyond it. Most obviously, architectures refer to the design of physical buildings. But architecture, in a more general sense, can also mean "a unifying or coherent form or structure" (Merriam Webster Dictionary). Theories and strategies possess architectures as much as buildings do, and the principle of coherence is central to them.

Some architectures of change and reform are quite simple and may involve activities like disseminating teacher manuals, or providing training through large scale workshops. Increasingly, though, reforms comprise not just single innovations undertaken in sequence, but complex changes that are undertaken and orchestrated together – involving elements of assessment, pedagogy, policy, organization, stakeholder involvement, and so on. The most complex architectures of all combine these elements in a single (coherent) design.

In the world of educational change, architectures of change are in great abundance. Market oriented reforms emphasize comparison and competition, survival of the fittest, consumer choice and performance-based pay. Standardized reforms encompass common standards and curricula, standardized testing, and a range of mechanisms to ensure fidelity and compliance. Some changes try to balance pressure with support, using targets and transparency to exert pressure and providing training and professional interaction to offer necessary support. Meanwhile those who want to innovate and not just improve try to create platforms of resources and support so that people can make changes for themselves (Leadbeater, 2004, Bentley, 2010; Johnson, 2010).

All architectures of educational change involve assumptions or beliefs about the circumstances or conditions that compel or convince different stakeholders to change in particular ways. In other words, the advocated or assumed change process concerns the presumed drivers, mechanisms and leverage points as well as other dynamic change forces by which these changes can be accomplished (Fullan, 2011, Hargreaves & Shirley, 2012). These might include inspiring leadership, confrontations with disturbing evidence, exerting pressure to try something new along with support to help people succeed at it, budgetary

incentives, or tools and inducement to get teachers to collaborate. Underpinning the adoption of drivers or combinations of drivers of change, are assumptions about how and why people change—being persuaded by the evidence, becoming "born again" in their moral purposes and professional beliefs, responding to extrinsic incentives, complying in order to avoid shame, dismissal or other strong threats, being motivated by quick wins that yield early success, and so on.

Essential for Some, Good for All, is a complex change with unusual but important origins, as well as a distinctive architecture and design from which other reformers can learn a great deal. But although all reforms have architectures, this does not necessarily mean that participants in the reform are able to articulate the nature of its architecture. Therefore, one of the research questions addressed by this review was:

> To understand and articulate the architecture and design of the ESGA project and its undergirding theory of action, so that both can be communicated clearly to participating boards and diffused more effectively to other jurisdictions, in Ontario and worldwide.

The premise of ESGA

Education for All was a call to action on many dimensions, but had no specific targets. It was, therefore, difficult to drive through the system in a top-down way. Consequently, for Deputy Minister Ben Levin and his colleagues, in thinking about how to convert *Education for All* from philosophy into practice, "it became pretty clear that a big part of this issue was teachers' feelings of capacity to teach effectively with a diversity of kids."[3] "So the idea then became, 'How do we help teachers feel more confident and more competent in having a wider diversity of learners in their classrooms?'"[4]

In practice, as the projects that evolved under *Essential for Some, Good for All*, were defined, most concentrated on three areas of *Education for All*: inclusive pedagogy (Universal Design for Learning and Differentiated Instruction); assistive technology, and developing collective professional responsibility for all students' success. The question this section addresses is how ESGA was able to secure commitment to, capability in, and coherence among, these various components of *Education for All.* What architecture did it plan and improvise over time to achieve these ends? Seven architectural and design principles emerge from our analysis of the case studies and, especially, the policy interviews and policy documents that constitute part of the database for this study.

The seven themes are

1. inspiring beliefs;
2. moral economy;
3. leading from the middle;
4. local authority and flexibility;
5. integrated strategy;
6. collective responsibility; and
7. intensive interaction.

1. Inspiring Beliefs

Many proponents of change operate on the assumption that people have to be compelled to adopt new mandated practices and to experience them before they will have some basis for changing their beliefs. In this view, the idea is to make the change non-negotiable, give people targets to motivate them and then provide lots of support to get them started. It is assumed that only after seeing successful change in a newly required practice will people start to change their beliefs about it (Fullan, 2001, p. 45).

ESGA was largely based on an alternative view: that common and compelling beliefs are a pre-condition for changing people's actions. Building trust, establishing common purposes, cultivating a sense of shared responsibility, raising expectations, developing relationships, and supporting increased collaboration – these strategies of *reculturing* provide much of the underpinning for ESGA (Hargreaves, 1994; Fullan, 1993). Change what people believe about who can learn and how they learn, for example, or, more specifically, about who is responsible for supporting children with special educational needs, and you will then be able to change what people do. In this theory of change through *reculturing*, people's beliefs often change before their practices.

Barry Finlay, Head of the Ontario Ministry's Special Education Branch from shortly after the start of ESGA, and specifically connected to the project from its third year, subscribed to a theory of change

that concentrated on establishing or clarifying "common shared beliefs and values."[5] Once this was achieved, he said, the point was then to "*let people go*."[6] This had been Finlay's vision when he was a principal of an innovative high school. He understood that "we have to give control of learning to students and they have to have ownership for this."[7] Just as, in his school, "the nature of instruction was one of open-endedness rather than controlled by the teachers who were providing the information," so too, he contended, adults in schools and school systems have to be "involved in decisions that affect them."[8] More than this, "if you *let people go* who fundamentally believe what you believe and are dedicated professionals, then they will do it," he said.[9] Finlay grasped that if you want to change people's practices and beliefs, you have to alter their patterns of communication and build new kinds of relationships among them. This may also involve changing people's roles or changing the *structures* of an organization – but the ultimate goal is to *reculture* schools, boards and whole systems so they serve all their children better.

The philosophical basis for ESGA was provided by *Education for All.* The report addressed the learning needs of all students including those who experience difficulty achieving grade-level expectations. People liked this "groundbreaking" report.[10] It "gained a lot of acceptance across the province." "It was a stage setter because it put ideas out there like Universal Design. It was the first time that the province said we should be thinking this way."[11]

Policy makers and system leaders "allocated dollars to boards within this concept of *Education for All* and improving instruction for kids."[12] They said the "project should fit somewhere within the guidelines of *Education for All*," but "that was it."[13] Despite the fact that educators were always "feeling overwhelmed by all kinds of other demands," the project's leaders couldn't "imagine a teacher worth their salt who couldn't buy into that philosophy."[14]

The inspiring beliefs that were articulated in *Education for All* resonated with Ontario educators. In the province's many Catholic Boards, for example, spiritual mission statements refer to the uniqueness of all children, where, in the words of one school principal, "Every child is a gift from God." The philosophy was also in tune with core cultural characteristics of inclusiveness and diversity that are an integral part of the nation's officially bilingual, multicultural identity, and that increased the likelihood that the policy would be implemented with fidelity.

2. Moral Economy

Not surprisingly, educators throughout the province particularly appreciated Ontario's re-investment in public education. Reforms designed to reduce budgets are the hardest sell of all to the professionals who work in the affected sphere. How does a government sustain its moral legitimacy, as well as professional and public support, when resources are no longer abundant and extensive economies have to be made? How can you save money without hurting children? When a reform seems able to support professional practice, improve educational outcomes and save scarce resources at the same time, its prospects for success are greatly increased. It becomes part of a government's moral economy.

British historian E. P. Thompson used the idea of the moral economy to explain the food riots of the eighteenth century. These, he claimed, represented "a pattern of social protest which derives from a consensus as to the moral economy of the commonweal in times of dearth" (Thompson, 1971, p. 247; also 1961). While paternalistic governments had previously exercised some sense of fairness in their treatment of the people, free market political economies had abandoned any such "moral economy" when they allowed widespread hunger to become the acceptable price of private gain. A moral economy is based on some sense of justice and fairness, on establishing a proper balance between economic development and social need. Interestingly, in *The Efficient Society: why Canada is as close to Utopia as it gets*, Joseph Heath (2002) describes how Canada may be one of the best examples of a moral economy there is.

Essential for Some, Good for All came out of the Ontario Liberal Government's moral economy. When it took office in 2003, the Government inherited a special educational needs strategy from its Progressive Conservative predecessor that was legalistic, labyrinthine and unsustainably costly. The previous government had introduced education

reforms that involved cuts in, and greater central control over, public education funding. At the same time, there was a new process that allocated additional resources to individual students identified as having special educational needs. In former deputy minister Ben Levin's recollection, this was now "the only place" school boards "could get more money." "If you could make a kid look bad enough you could get extra money and there was a ton of paperwork with it."[15] This created "huge financial pressures on special ed because the number of kids identified was going steadily up" – 10% a year. "So money was rolling steadily out."[16]

Bruce Drewett, the Ministry's Director of Special Education Programs Branch at the time, and his colleague, George Zegarac, the current deputy minister, felt that the system of individual identification had turned into a "funding formula driven activity."[17] "There was more effort actually going into filling out forms to drive funding as opposed to driving the needs of instructional practice."[18] The process was being "used to generate more money for the boards." "That," they said, had "got to change."[19]

Drewett has lived a lifetime with physical disability and he had many experiences of being and feeling excluded when he was a student in school. Along with Levin, Drewett felt that the special education process, driven as it was by separate identification, was a moral problem as well as a monetary one. The escalating rates of funding-driven identification were based on and also boosting "a deficit based type of documentation as opposed to what the kids can do and could be expected to do."[20] Drewett continued, ""There was also an emphasis that the kid needs a full-time educational assistant as opposed to the emphasis on the instructional level based on the kids' needs."[21]

The old system that gave priority to identification over instruction was not the best way to help students. A senior ministry administrator remarked how "sometimes you have five educational assistants in a classroom. None of them are coordinated in terms of the whole classroom. And the perception is the assistant is tied to the student."[22] Levin was keen "to try and keep as many kids as possible in regular classrooms."[23] He and his colleagues wanted to create a more collaborative and inclusive way of doing that by attaching resources to instruction rather than to individuals.

One part of the moral economy in times of austerity may be to save on the legal and medical costs of avoidable special educational individual entitlements and interventions. ESGA anticipated this response. It is a strategy that is driven by a moral purpose of effective inclusion (rather than simply placement) of students in classroom learning that also strives to halt unnecessary escalations in administrative time and educational expense. It is about regulating costs, without harming children. It is about saving money, saving time and saving children too.

3. Leading from the Middle

Large-scale reforms make little progress unless they have sustained, key political support behind them and widespread professional engagement in developing or delivering them. In many approaches to system-wide change, this is about establishing a "guiding coalition" of key stakeholders at the top. The initiative that became *ESGA* began and then built momentum because of pressure from system leadership, *in the middle*, that coincided with the high profile needs of securing measurable improvement in literacy and numeracy achievement at the top. Leading from the middle took three forms:

1. the high--level stakeholder representation that also applied to other provincial reforms in education
2. collective commitment and advocacy of all or most leaders, and
3. development and steering by a team of middle--level leaders.

First, in 2005, three superintendents of special education wrote to the deputy minister, arguing that the leadership of the superintendents and their directors could be drawn on more effectively in relation to implementing *Education for All*. "If the superintendents didn't see it as important enough to empower the people to bring about this change, it wasn't going to happen," they believed.[24] The superintendents knew that other groups like the teachers and the principals had been offered resources to support the Government's reform agenda, and that they wanted to be included too. These key

stakeholders felt like "second bananas" who had been excluded compared to other constituent groups like the teachers' federations and the principals' organizations.[25] In this respect, the resources for CODE (which became ESGA) were given in "the same year (the government) gave the (teacher) unions $20 million for PD" as part of the move to establish peace and stability in labor relations.[26]

At the provincial government level, "there had been some support for curriculum folks, but no money had flowed to special education."[27] "The province knew it had to make changes, but it really didn't know" what to do. "It knew what it couldn't do, which was mandate a bunch of stuff" as it had in other parts of its reform program.[28]

In a subsequent meeting in the spring of 2004 with leaders of the Ontario Council of Directors of Education (CODE), the minister stated that he would write a cheque for $25 million for "CODE to do the professional development associated with Education for All." The province's board-level leaders were now officially key stakeholders in the province's reform strategy.[29]

Second, although superintendents and directors were now directly involved in special education reform at the highest level, how would they be able to build commitment and capacity within the ranks of these senior level leaders themselves? The answer was in the funding. Frank Kelly, Executive Director of CODE, pointed out that in the past funding equity had been calculated on a per-pupil basis:

> So if you're in Toronto you get a zillion dollars and if you're in (a small Northern board) you get 50 bucks because of your population. My concept was totally the opposite. I said the only way that I could see supporting the division of those dollars was if everyone got the same. And if you're in a small board this was your chance to shine and you could purchase resources that you couldn't bring forward internally.[30]

If funding had been allocated proportionately, "there would have been very, very little, if anything to give to the smaller boards."[31] Yet, "three quarters of the school boards in Ontario are considered small or medium size."[32] So the CODE leadership team determined that "the funding was going to be equal no matter what the size of the board."[33] Although this risked alienating the larger and traditionally more powerful boards, the many directors whose boards now benefitted from significant infusions of dollars were in a position "to do something that they could have never afforded in any other circumstances," and provided the initiative with a critical mass of senior level support.[34] It "upped the profile in the province in terms of what the project was all about." The relative impact of project funding in smaller boards gave them "a real impetus" for change, especially when they were already short on resources for special education programming. "For them to get a big chunk of money and to be able to do something was so empowering they would have stood on their heads and spit nickels for us," one of the project team reflected.[35]

In short, "the goal was to get everybody talking about *Education for All* and everybody involved."[36] All 72 boards eventually participated: the smaller boards being more able to establish a critical mass for change, while the larger boards could use CODE (ESGA) funding for pilot projects that could then be scaled up at a later point. Every superintendent and director became an advocate. This project design feature of flat-line funding with all boards participating was crucial in establishing the abundant political and professional capital that would carry the project forward. District level leaders became the collective dynamos who gave the whole project its energy and momentum.

The Ministry wanted to turn *Education for All* into a reality and connect it to the wider student achievement agenda by developing teachers' capabilities to differentiate their instruction. Among some of the province's directors and superintendents (like US superintendents and assistant superintendents), there was a feeling that the Ministry did not know "how else to make it happen" in a way that would "involve the senior administrators of the province." So the "parameters were very wide open."[37]

The third aspect of leading from the middle took the form of a small steering or leadership team of retired directors and superintendents from public, Catholic and Franco-Ontarian districts that was appointed by the head of CODE to be responsible for designing and developing the ESGA initiative. This leadership team knew that, with the deputy minister's

full support, it was engaged in "a new way of thinking about how to implement a service." The team believed that Deputy Minister Levin had been "quite brilliant" when he

> recognized that having the intermediary group of the senior leaders in the province involved in moving the information from a document that had been produced by the Ministry to district school boards and having them act on it was a new way of thinking about implementation. I think it was part of the reason for our success because we weren't the Ministry, so we weren't viewed in the same way by boards. We were able to operate with more flexibility in a more nimble way because we weren't tied into the Ministry. But we also weren't district school boards. So, we didn't have a particular way of doing business that was entrenched. We didn't have the issues that either the ministry would have or that the school boards would have. But we also had a deep understanding of how school boards worked.[38]

A colleague of Levin's remarked how the Ministry "wanted them to have ownership of the project with us because at the end of the day it was about a culture change and movement that we needed them to actually own. There's no sense in us putting a report out there as to what they needed to do." [39]

The leadership team was "not a threat to the superintendents."[40] "They knew that we received the funds from the Ministry of Education but the individual boards weren't reporting directly to the Ministry of Education for the work that they were conducting. They were responding to CODE and they considered us to be their colleagues"[41] Instead of *pushing* and driving a change through the superintendents and directors, the leadership team was more about "bringing forth and empowering the knowledge that already existed with the superintendents," providing an affirmation of who they were and what they knew and their "great ambition", if they could be allowed, was "to get it out there."[42] The job of the project was not to deliver the details of centralized reforms, but "to *pull* it from the people" as superintendents and others in the boards interacted with the leadership team during the process of applying for project funds.[43]

ESGA has not been about driving and delivering reforms designed at the top, but more about developing solutions collaboratively, about "pulling things" from people rather than pushing them (Hargreaves & Fullan, 2012), and about steering from the middle among a respected group of third party players.

4. Local Authority and Flexibility

In England, the U.S. and other countries such as Sweden, there is currently an orchestrated assault on, and undermining of, local democracy, school board responsibility and community engagement in public education, especially through the proliferation of charter schools, free schools and academies that operate free from local control. Even in Canada, the long-standing role of school boards is also in question as successive rounds of amalgamation and consolidation of school boards in response to demands for austerity have led to larger and larger boards. These measures mean that school boards are increasingly are in danger of turning into regional management units for delivering central policy rather than being organs of democratic representation and improvement that are able to involve and respond to the distinctive nature of local communities.

In ESGA, considerable freedom and flexibility was accorded to the school boards. Every board developed its own project and plan. A great majority of the ten boards involved in this project had a common focus on literacy and on using data to improve instruction and achievement. In communities with widely varying populations and cultures, this allowed for a great diversity of projects concentrating on themes like early literacy, Universal Design for Learning, assistive technologies, and the development of strategies to raise expectations for Aboriginal students. However, even projects designated as falling under a common theme adopted a different form and emphasis to suit the local context. One of the leadership team remembered how they "had to respect the fact that boards were at different places and that they had different needs and that what might work in one board would not be effective in another."[44]

> With the way Ben (Levin) and his colleagues orchestrated this grant and this project, every teacher didn't have to do the same thing. Too

often a project of that nature is, "OK, you will do this and it will happen this year and you will report it." Ours was much more open than that and it was "bring us your best approach, we're going to look at it" – and most of them were approved.[45]

Table 3.
Summary of ESGA projects.

Board	Nature of Project	UDL	DI	Assistive Technology	Assessment for Learning	Technology for data-driven improvement
1	Assessment for Learning to guide individualized instructional interventions for at-risk JK/SK students			✓	✓	✓
2	Universal Design for Learning and Differentiated Instruction for literacy; began with four intensive support schools	✓	✓	✓	✓	✓
3	Differentiated Instruction for elementary schools and Assistive Technology		✓	✓		✓
4	Literacy development for early learners; began with one school and expanded to six schools	✓	✓	✓	✓	✓
5	Diagnostic assessment tools and web-based teaching tool; moved from 12 SK classes to	✓	✓	✓	✓	✓

Board	Nature of Project	UDL	DI	Assistive Technology	Assessment for Learning	Technology for data-driven improvement
	grades 7 and 8					
6	Reading, writing, and thinking skills for Grade 3 to 8; all schools	✓	✓	✓	✓	✓
7	Assistive technologies sessions for selected grades 4-8 students		✓	✓	✓	✓
8	Differentiated Instruction and Assistive Technology for Grade 7 and 8 instruction	✓	✓	✓	✓	✓
9	Cyber planner data management teacher support for Spec Ed students in five schools (Year 3)				✓	✓
10	Enhancing language skills through professional development, use of different pedagogies, and assistive technology	✓	✓	✓	✓	✓
	Total	7	8	9	10	10

The Ministry "didn't micromanage in any way. They asked lots of questions, but they never came out and said, 'You will do it this way'."[46] In the province's prior and parallel educational reform strategy, it was felt, "a real weakness" was that there had been "so much focus on building a common curriculum and working on common goals" that flexibility and variation to fit the context had "really been lost."[47] By comparison, ESGA's leadership team was given considerable scope to promote and respond to local variations in cultures and communities.

A Franco-Ontarian board actively protected multi-literate areas of art and play through which its imperiled Franco-Ontarian culture expressed and protected its defining identity. Preserving this identity was regarded as being at least as important as narrowing measurable achievement gaps.

One board had to contend with an Old-Order Mennonite farming community in which many of its young people were expected to finish school before the legal age limit. The board realized it could not enforce attendance because the families would simply migrate to other parts of their farming network in the US or beyond. So the school where this community was mainly concentrated focused on making a generational change in attitudes to education by building trust and relationships with families, serving locally grown food for school snacks and lunches, walking with parents back to their homes and even carrying their groceries for them, if necessary. This trust-building process of empathy and communication helped keep families in the community and better connected to the schools, whereas more standardized or punitive strategies would likely have driven them away.

One board, in which aboriginal students comprised 40% of the enrolment, addressed the fact that many of them had been deprived of their own heritage language and also excluded from the majority language of English. The board thus set about raising its literacy scores not by more practice and testing, but by developing basic oral language capabilities as a foundation for future learning.

A board with high proportions of immigrants which had seen a sharp drop in the achievements of its English Language Learners in Grade 4, embarked upon an early literacy initiative that broke through impassioned ideological disputes between advocates of structured literacy and of unstructured play. The initial concerns of teachers opposed to structured literacy rather than free play were overcome by an enriched and engaging literacy program that connected language and words to activities with sand, water and other manipulative materials like floating ducks that had matching letters for upper and lower case. This demonstrated how children could "learn in a joyful way without setting children free to play for the day."

The architecture of ESGA allowed for and encouraged responsiveness of boards' projects to the diversity of communities and cultures they served. It gave boards a great degree of local autonomy and authority in devising their own change solutions. It worked with diversity rather than enforcing standardization.

However, local adaptations of focus and approach could not, by themselves, create coherence of overall direction or quality of results. There was sophisticated differentiation and responsiveness; but how could there then also be coherence across the system? The actions of the group of former superintendents who were leading from the middle were key to creating cohesion and interconnections among all the activities of these different authorities.

5. Integrated Strategy

From the outset, with the appointment of its coordinator and its leadership team, ESGA reached out to senior leaders from other provincial reform initiatives such as the Literacy and Numeracy Secretariat, those involved with the Student Success initiative in secondary schools, those who had responsibility for School Improvement, and those who were working in other Ministries. Some of these leaders were surprised

by this willingness to involve them from the very beginning, but it led to a more coordinated organization of effort and initiative not just at the Ministerial level, but in board projects too. It forged a connection between ESGA, and the high profile and high priority provincial literacy and numeracy initiative that was already far advanced in the province's strategy.

This move to integrate effort and responsibility at the highest level was designed to increase the status of the project and its purposes, to head off potential conflicts and the threat of departments and programs working at cross-purposes, and to increase collective capacity of personnel and resources. The leadership team developed an approach of trying to "piggyback" on to other board and provincial initiatives in areas such as literacy and Student Success.[48] "The more successful projects were really integrated into the other things that the board was looking at."[49] Indeed, one of the leadership team recalled, "We would not have had the success if we hadn't had those things happening."[50]

Taking action on special education also fit with the province's other reform priorities. Former Deputy Minister Ben Levin knew that "kids going into special education tend to do worse" than other students in literacy and numeracy, and that there were "big achievement gaps between kids in special education and other kids on the EQAO results."[51] So one way to try and close the achievement gap was to improve learning and performance in the special education population.

Sometimes, as we will see later, ESGA came into tension with other provincial educational reform priorities, especially concerning the attention to threshold targets on standardized tests which were sometimes seen as being at odds with the clear progress attained by students with special educational needs (Welch, 2012; Morton, 2012). In relation to elementary education, these threshold targets focused on ensuring that 75% of students would reach or exceed Level 3 proficiency in literacy and numeracy in Grades 3 and 6. This was commonly referred to as the "Drive to 75" by educators in the boards that were studied. Nonetheless, the synergy between ESGA and the Literacy and Numeracy strategy was much stronger than might be expected, with literacy leaders being engaged and involved in ESGA, and many of the boards' ESGA projects in this research sample having a concentrated focus on learning and achievement in some aspect of literacy. Thus, despite some strain in relation to the "Drive to 75", substantial synergy was achieved between ESGA and the provincial Literacy and Numeracy strategy.

6. Collective Responsibility

Another principle in ESGA's architecture of change is that of collective professional responsibility for all students' learning. This principle is a widely noted aspect of other high performing educational systems such as Finland (Hargreaves, Halasz & Pont, 2008; Sahlberg, 2011).

The ESGA project, it was initially thought, would be for just one year. . In previous instances of project funding, money came in and out, "but, you never really changed your underlying structure, so when the money went away," the project was abandoned.[52] ESGA's funding would therefore be used in a paradoxical way, as a one-time chance "to fund opportunities for districts to experiment with new ways of doing business with regard to special education" and then to have the boards institutionalize these new ways, if they were successful.[53] Confounding almost all established change theory, the design was premised on making a short-term change that would have a long-term impact – the creation of a structure and an ethic of collective responsibility for all students, and the differentiated instruction that would be provided for them by all teachers together.

In this spirit, the ESGA project was designed to break down "silos" within school boards between the curriculum and special education departments and their superintendents. This was meant to lead, in turn, to making "better use of the roles and responsibilities of the special education resource teachers in relation to classroom teachers[54] as they shared collective responsibility for all students."[55] Requiring the superintendents for both curriculum and special education to "sign off" on the project budget was one small but significant structural device to achieve this.[56] *Restructuring* was being employed in order to achieve *reculturing* of board relationships.

Collective responsibility was a prime reason why one of the elementary schools in the project had been able to turn its achievement results around. Like many of its counterparts in the board and beyond, this school had instituted an 8-week Teaching-Learning Cycle, where students were assessed and tracked at the end of each cycle on their progress in literacy and

mathematics. They were also reviewed periodically in the cycle, and each student's progress was displayed on a data wall in green, amber or red colours, so as to identify any child, in real time, who might be registering as falling behind.

In meeting after meeting, the principal convinced all the staff to take collective responsibility for every student. In time, all the teachers came to care about all the students, not just those in their class or grade. Grade 1 teachers shared responsibility for how students were doing in Grade 6, because those students used to be in Grade 1. Special education teachers worked alongside other teachers in regular classes to help all students who needed it - not just those who had been formally identified. This stimulated intense conversations that put children's faces on their performance numbers and that encouraged a common focus on student learning and how to improve it (Sharratt & Fullan, 2012).

Collective responsibility was encouraged and supported by the belief system of *Education for All* and by putting an end to the silos within school districts. Educators across the boards involved in this study learned to employ and make thoughtful use of common language and tools such as data walls and anchor charts to stimulate committed professional conversations. Anchor charts, for example, were hand-made posters that were widely used to communicate things like common objectives and concepts across a grade level in a way that even students could use to guide their learning and help them advocate for the kind of instruction they needed from their teachers. These charts existed prior to ESGA but were used much more frequently after the start of it.

On a 5-point scale, surveyed teachers registered a mean of 4.13 in acknowledging that staff felt more collective responsibility for students with special educational needs, and 4.21 in relation to the statement that there was better collaboration among all professionals in relation to these students.

Open-ended survey responses include many testimonials to the development and impact of this deliberately created sense of collective responsibility that was inherent in *Education for All* and that seemed to be very much alive in many of the province's classrooms. The sense of shared responsibility respected the differences in people's contributions and expertise, but brought these together to serve a common purpose.

> There's a change from my students to our students. So there's that collaborative sense of inquiry. There's really a consensus [in the] building with a lot of our key teachers helping all of the students move forward and not just the kindergarten kids that are in their own classroom).
>
> It's not all on the classroom teacher. They never feel like they're responsible for this one child. It's working together as a team.
>
> Although there's a shared responsibility with all of these students and we very much did team teaching and team planning, we were case managers for those specialized students. We were their voices because we had the training.

Through ESGA, schools brought together classroom teachers and special education teachers and their counterparts in school board administration to work collectively, passionately and intensively on behalf of all the children for whom they shared responsibility, and in relation to their experience and knowledge of those children as well as what the data displayed about their achievement. ESGA sought to develop professional learning communities that put "faces" on achievement and other data, so that teachers took collective responsibility for knowing and responding to the real children that the data represent.

7. Intensive Interaction

How can a province-wide array of locally responsive projects be brought together coherently? In ESGA, board projects were held together by the guidance of the respected middle-level leadership team, and by their pragmatic and political integration with, and "piggybacking" on, other reform priorities. They were also interconnected by an intensive process of constant communication – a characteristic that is essential to the success of other high performing systems like Singapore (Hargreaves & Shirley 2012).

In a short space of just a few weeks, each member of the leadership team took responsibility for communicating with ten or more boards, establishing

"relationships with the superintendent or staff person in charge of the project."[57] A coaching and mentoring process was established whereby the intermediary group of superintendents went back and forth with boards during the application process to ensure that everything hung together in line with EfA's guiding principles.

In a number of instances, the approval process could become "quite sticky."[58] Some proposals were initially rejected. The leadership team "went back sometimes and said 'No, it didn't have the support of the team. Here are the things you need to do to change it'"[59] -- perhaps because it did not have enough of a student focus or because it had insufficient emphasis on getting special education resource teachers and classroom teachers to work together.

One month after the projects commenced, in October of 2005, a team of 30-35 "monitors," appointed and trained by the leadership team, visited the boards and the schools in pairs for the first of two visits in the first project year. As former senior school board staff who were "very experienced," the monitors "understood the boards," and had received training to prepare them in what to look for on their visits.[60] Their task was to help boards and schools "reflect on where you are in your project at this point, what the gains have been and so on." Frank Kelly described the monitors as "non-threatening" and as "confidantes" who did "not go in and say, 'Hey you have to do it this way,'" but asked reflective questions about people's programs.[61]

However, when the call reverberated through the boards that "the monitors are coming; the monitors are coming," this served to "kick-start" the projects.[62] "It really got it into gear fast because boards knew that two people were coming to spend a day talking to them about what their plans were and what they had found out to that point."[63] In practice, "everyone tried to impress" the monitors "with their good work but "the word spread" that the monitors and therefore the overall project were "actually looking at what we're doing."[64]

The CODE leadership team and the cadre of monitors were far more than compliance officers. They were not there just to ensure technical fidelity with an imposed program and set of strategies. They were able to appreciate and to adapt to local exigencies. They catalyzed mutual learning and provided reflective feedback. The monitoring and coaching processes were integrated with structured networking opportunities in which boards would learn from each other in organized and carefully facilitated ways to support constant reflection about progress and modification of board level strategies. In the project's complex change design, coaching and monitoring were integrally connected with cross-pollination of understandings and ideas. Coherence among a diverse portfolio of projects was strengthened through networked communication. Some boards, for instance, were initially unclear what kinds of instruments they could use to measure growth in student achievement or the development of other skills and attributes. Coaches and monitors would advise contacting another board they knew that had "a couple of tools that they have been using."[65] "So, what we were doing was cross-pollinating in our coaching roles. That was our job as the coaches," one of the CODE team reflected.[66] This cross-pollination and constant communication rather than enforced compliance was at the heart of ESGA's strategy for creating coherence.

Conclusion

This review of the architecture of *Essential for Some, Good for All* suggests the need for some modifications to the widely proclaimed and disseminated reform narrative of the province's contribution to global high performance. The existence and impact of ESGA emphasizes the point that OECD and others have already made – that improvements in achievement cannot be attributed to single reform policies or priorities (Loveless, 2011). Reforms are complex. They interact and sometimes even conflict with each other. They also exert their effects in relation to the wider policy, educational and provincial or national culture over time; not as one-time strategies with immediate impact.

ESGA is part of this complexity. It is, in global terms, a unique architecture of change that offers a great deal to other jurisdictions designing their own change efforts. Sometimes ESGA's design has been in tension with the province's wider change strategies, particularly in relation to imposed threshold targets for student achievement and standardized testing priorities. But often it dovetails well with those policies, especially in relation to the highly regarded Literacy and Numeracy strategy.

This coherence is sometimes accidental, sometimes a consequence of deep-seated ways of undertaking change collaboratively that have pervaded the professional life of educators in the province for decades; and sometimes a matter of deliberate focus and priority. For instance, in this last case, the ESGA initiative was seen as a way to "piggyback" on to and strengthen results in the established reform priorities of tested literacy and numeracy – rather than being a threat to these core reform priorities. It was designed to lower the rates of special education identification that were becoming a drain on the education budget and an obstacle to the province's quest to raise educational achievement among all students. It allocated substantial discretion and autonomy to the school boards that were the local authorities, but through constant monitoring and intensive interaction, made sure that their efforts were consistent with existing priorities. And by deliberately structuring ways to break down silos and develop collective responsibility, it connected professionally-driven interactions to the continuing focus on improving achievement results.

ESGA's architecture of educational change is not a straightforward, linear one of clear plans that are centrally designed and then implemented with fidelity. It is, rather, a more complex, interactive and improvisational design that is sometimes central and sometimes local; in many ways politically recent but also coherent with a longer-term collaborative trend; in some respects planned in great detail with great forethought and in others improvised by necessity on the spot.

We have seen that seven principles characterize ESGA's architecture of educational change:

- *Inspiring Beliefs* that motivate widespread participation;
- A *Moral Economy* that is prudent about individual placement yet persistent about classroom and curriculum inclusion;
- *Leading from the Middle* by a respected third party of former superintendents who were actively supported by a large majority of their provincial colleagues;
- *Local Authority* and flexibility that allows and insists on responsiveness to local needs and circumstances;
- An *Integrated Strategy* that dovetails with existing high priority policy strategies;
- *Collective Responsibility* for all students' learning - especially between special education staff and their colleagues with curriculum and classroom responsibilities; and
- *Intensive Interaction* that connects everyone and creates coherence among all policy elements by constant monitoring, mentoring and cross-pollination of insights, ideas and activities.

To sum up, the CODE project is, in global terms, a remarkable and unusual example of a systemic educational reform strategy. It has taken the hitherto often marginalized area of special education and used it as a device to transform education for all students across the whole system. It steers change from the middle instead of supporting it from the bottom or driving it from the top. In ESGA, change is driven by a commitment to passionately shared beliefs that then transform practice, more than by pushing people into new practices as a way to change their beliefs. It creates coherence through shared beliefs and constant interaction more than through paper procedures and alignment. And ESGA is about being able to respond flexibly to local needs and circumstances rather than about implementing uniform mandates. ESGA is about reculturing a profession as much as it is about restructuring a system. In short, in its focus on students and in its engagement of all professionals, ESGA's origins and architecture enshrine the philosophy advanced by a special education superintendent in relation to her board's students: "We meet them where they are and move them forward."

Chapter 4. Findings from Surveys and Existing Achievement Data

Introduction

The architecture of ESGA was designed to provide boards with the flexibility to plan and implement strategies that would be appropriate for their local circumstances and that would lead to improved learning outcomes for students with special needs and—by extension—the needs of other at-risk populations. Research Question 2 calls for evidence regarding the scope and depth of those changes. Research Question 3, meanwhile, requires data on trends in learning and achievement outcomes within each board involved in this study, across the sample of boards as a whole, in comparison with province-wide achievement data for the entire population of students at tested grade levels on the one hand and the populations of students with special educational needs on the other.

This chapter contains a summary of some of the evidence that is already available and that has also been accumulated with respect to both those questions, as well as a discussion of the difficulties of drawing causal interpretations from these data sets. It begins with a review of selected EQAO results for the province as a whole, as well as by school sector. ESGA was a province-wide initiative and the EQAO results, unlike the evidence collected from the study boards, are available for all 72 boards in the province. This review is followed by a synopsis of the evidence from the "closed-ended" questions in which participants selected one or more of the options presented, that were obtained through the web survey. The chapter ends with a synopsis of the survey results stemming from the eight "open-ended" questions. In these survey items, participants were able to enter free-form text responses. The detailed data are presented in appendices to this report, as described below.

Quantitative Findings

EQAO results

Student progress on Ontario's literacy and numeracy initiatives was evaluated in various ways by the study boards. Most boards employed standardized instruments alone or in combination with locally developed assessments. Typically, such results are not easily compared across boards both because the assessments are not common across boards and because there is no centralized data repository to facilitate such comparisons. On the other hand, EQAO results are a set of indicators that are common to all boards, and that were monitored particularly closely by the Ministry of Education. Since most boards in this study focused wholly or partly on early literacy in their ESGA priorities, this section presents the achievement outcomes for reading and writing at Grade 3. The attention of the Ministry and the public was concentrated on a single statistic: the percentage of children attaining or exceeding level 3 (on the EQAO). This is because a threshold target percentage of 75 was set for all boards by the provincial government and progress toward that target was used as an important indicator of the success of reform initiatives.

EQAO results are presented at the board level rather than for the province as a whole. There are two reasons for this. First, a sizeable proportion of province-wide results comes from a modest number of very large boards. This masks the considerable variation across the 72 boards in the province. Second, as the discussion of project architectures has revealed, boards adopted different strategies under ESGA, and incorporated different combinations of reform initiatives over time. This also makes board-level analysis particularly appropriate.

Yet even at the board level, and not just at the provincial level, it is not possible to link specific interventions to particular patterns of results because boards implemented simultaneous, successive and overlapping initiatives, and because ESGA initiatives rarely impacted all students in all schools. This phenomenon is not confined to Ontario but has been found to be the case in other provincial reform efforts (e.g. Hargreaves et al 2009) and in national educational reform efforts elsewhere (OECD 2011, Loveless 2012). In this respect, the data for Ontario overall, and for the ten boards in the study, during the period that spans the ESGA years, are not especially valuable for making causal claims about the impact of specific reforms like ESGA, but they do provide a broader contextual picture

in which other kinds of impacts and effects can be considered.

EQAO results are presented first for all 72 boards and then separately by school sector (Public/Catholic/Franco-Ontarian).

Reading and Writing ('04-'05 to '08-'09): All Students

There was considerable variation in Grade 3 reading results among the 72 boards both in the school year preceding ESGA (2004-05), the three ESGA years and the year following ESGA (2008-09), with nearly 40 percentage points separating the highest and lowest performing boards (Panel 4.1). There was slight progress in reading achievement during the period: the mean increase across boards was 3 percentage points in the proportion of students meeting or exceeding the provincial target. A scatterplot demonstrates that there were also considerable differences among boards in gains and losses over the period, with 51 boards experiencing some gains and 21 experiencing losses. Both the direction and magnitude of a board's gains (or losses) could be due to a number of factors, including the implementation of reform initiatives, changes in the student population, as well as the location of the level 3 cut-score (that represents the official proficiency threshold) in relation to the prior distribution of scores in the board (a gain being numerically easier to secure where prior scores were relatively low, for example). When the EQAO results are disaggregated by sector, gains were registered by 17 out of 31 Public boards, 22 out of 29 Catholic boards and all 12 Francophone boards.

In writing, there was also considerable variation among the 72 boards in both years (2004/5 and 2008/9), although the mean gain was 7 percent, somewhat larger than for reading (Panel 4.2). Again, there was considerable variation in gains and losses over the period, with 56 boards experiencing gains and 16 encountering losses. When the results are disaggregated by sector, gains were registered by 27 out of 31 Public boards, 27 out of 29 Catholic boards and 11 out of 12 Francophone boards.

When the boards are disaggregated by sector with reading results displayed for each year in the period (Panels 4.3, 4.4, 4.5), there is little or no clear trend for the public and Catholic boards, but a sharp increase in the last year for the Francophone boards. However, for the Francophone boards, there were no data for the '04-'05 year and one of the 12 boards provided no data at all.

In writing, the public and Catholic boards registered noticeable "spikes" (in mean percent at level 3 proficiency or above) in the '07-'08 school year of 3 and 4 percent, respectively (Panels 4.6, 4.7). Francophone boards also registered a spike of nearly 3 percent in the '08-'09 school year (Panel 4.8) – the year for which data were available.

In the 31 Public boards, changes between the 2004/5 and 2008/9 testing years ranged from a loss of 7 percent to a gain of 14 percent. Six boards lost ground, but 25 boards gained. Among the 29 Catholic boards, changes ranged from a loss of 8 percent to a gain of 16 percent. Six boards lost ground but 23 gained. Finally, among the 12 Francophone boards, changes ranged from a loss of 3 percent to a gain of 8 percent. Four boards lost ground and 8 gained. Thus, there is substantial evidence of widespread gains across the province in the 2008/9 testing year. This appears to be related to a change in policy regarding accommodations for EQAO test-takers in 2007/8.

Identification Rates for Special Needs Students ('04-'05 to '08-'09)

Part of the Ontario Ministry of Education's moral economy in relation to its special education strategy was to reduce escalating rates of identification for special educational needs by transferring resources and reorienting reform efforts towards improving instruction for all students. In relation to this policy direction, we therefore collected data on rates of identification of special needs students (excluding gifted students). These are displayed in Panel 4.9.

There was substantial variation in identification rates among Public boards in each school year, with the mean rate across boards increasing by slightly more than 4 percent over the period. Variation among Catholic boards was slightly greater and the mean rate increased by about 3.5 percent over the period. By the 2008-09 school year, the mean rates in the two sectors were nearly identical. Among Francophone boards, the mean rates were slightly lower than those in the other two sectors but the variation among boards more than doubled over the period. However, the mean rate only increased by slightly more than 2 percent during this time. In conclusion, it is clear that ESGA did not lead to a reduction in special education identification rates

during this period, although it is possible it may have slowed an even sharper rise in rates that might have occurred without it.

Reading and Writing ('04-'05 to '10-'11): Special Needs Students

Reading results for special needs students for each of the three sectors are displayed in Panels 4.10, 4.11 and 4.12. For Public boards, there was generally a steady increase over the period, with an overall mean gain of nearly 13 percent. For Catholic boards, there was a steady increase during the earlier school years with a plateau in the later years. The overall mean gain was about 11 percent. The Francophone boards registered steady increases with a spike of 9 percent in the '08-'09 school year. The overall mean gain in the Francophone boards was slightly more than 21 percent, noticeably larger than in the other sectors.

Writing results for special needs students in the three sectors are displayed in Panels 4.13, 4.14 and 4.15. The Public and Catholic boards registered steady increases over the period, with especially large spikes in the 07/08 school year of 20 percent each. Francophone boards also registered steady increases with a large spike of 17 percent in the '08-'09 school year. The overall mean gain was 21 percent.

Gap Analysis

Panels 4.16, 4.17 and 4.18 display the achievement gaps in the percentages of students reaching level 3 proficiency in reading between non-identified and identified students for each of the three sectors. Again, in each sector, there is considerable variation among boards, but the mean gap registered a substantial decrease over the period: 8.4 percent for the Public boards, 11 percent for the Catholic boards and 8.2 percent for the Francophone boards. Panels 4.19, 4.20 and 4.21 display the gaps in the percentages of students reaching level 3 proficiency in writing between non-identified and identified students for each of the three sectors. Again, in each sector, there is considerable variation among boards, but the mean gap in writing results registers a greater decrease than that in reading over the period: 18.7 percent for the Public boards, 22.6 percent for the Catholic boards and 15 percent for the Francophone boards. Thus, across the province, there was a general trend toward a substantial reduction in the achievement gaps in reading and, especially, in writing between identified and non-identified students.

Study Boards

Among the study boards, there were 5 Public boards, 4 Catholic boards and 1 Francophone board. With such small numbers, even though they constitute almost a seventh of all the boards in the province, patterns and trends are more difficult to discern because of sampling fluctuations. Nonetheless, overall EQAO results for the study boards in both reading and writing were similar to those of the non-study boards in the same sector. (Note: In what follows, percentages in [ ] are the mean gains for all boards in the corresponding sector.)

For the study boards, mean percentage increases in reading over the five-year period were 1 [0.5] percent for the five Public boards, 5 [2.5] percent for the four Catholic boards, and 19 [7] percent for the one Francophone board. In writing, the mean increases were 8 [6.5] percent for the Public boards, 10 [8.5] percent for the Catholic boards and 12 [4] percent for the Francophone board.

In the study boards, identification rates also increased slightly over the period but, in general, were somewhat lower than the rates in the non-study boards. For the study boards, achievement gaps in percentages of students proficient in reading and in writing between non-identified and identified students declined in each of the three sectors, paralleling the findings for non-study boards in those sectors. Specifically, in reading, the mean gap declined by 7.5 [8.4] percent for the Public boards, by 8.5 [11] percent for the Catholic boards and by 5 [8.2] percent in the Francophone board. In writing, the mean gap declined by 20 [18.7] percent for the Public boards, by 17.5 [22.6] percent for the Catholic boards and by 15 [15] percent for the Francophone board.

Summary

The EQAO results presented in this section display some interesting patterns. Within each sector, there is considerable variation among boards on all indicators. At the same time, there was slight overall progress in reading and substantially greater progress in writing. This was the case in all three sectors although typically and interestingly there was a year's lag in the Francophone sector. As is evident from the box-plots,

the "spike" in writing proficiency occurred in the 2007-8 school year for the Public and Catholic boards, while for the Francophone boards the increases were distributed over the 2007-08 and 2008-09 school years, with the larger increases occurring in the latter year. In all three sectors, the increases in writing were substantial and were sustained in succeeding years. The existence of the "spike" in EQAO results highlights how essential it is to take account of different system changes when evaluating the impact of particular reform initiatives. In this case, regulations governing test-taking accommodations for students that enabled them to demonstrate their writing accomplishments seem to have been a critical, or an otherwise highly coincidental, factor in relation to the spike in writing results.

Finally, although identification rates of special needs students did increase over the period in all three sectors, the achievement gap between special needs students and other students declined in both reading and writing, especially in writing. The latter finding is not only due to the fact that the "spike" was greater for special needs students than for other students but also because special needs students registered greater gains in other years as well.

Survey results

The web survey was conducted in order to collect evidence regarding various aspects of ESGA from a larger sample of teachers and other school professionals beyond the two schools from which data were collected as part of each school board site visit. Schools asked to participate in the survey were ones that had been involved to some extent in ESGA. Accordingly, the survey results reported below cannot be generalized to all schools in the study boards. Rather, they are intended to complement the findings from the site visits and board documents.

The survey instrument had two distinct sections: a set of "closed-ended" questions and a set of "open-ended" questions. The closed-ended questions covered a broad range of issues related to the implementation and perceived impact of ESGA and ESGA-related components such as:

- changes in collegial relationships;
- instructional practices;
- uses of assessment;
- experiences of students with special needs.

The open-ended questions substantially overlapped in content with the closed-ended questions, and were designed to give participants an opportunity to elaborate on the issues.

The survey instrument is contained in Appendix 3. We first present a summary of the responses to the closed-ended questions. There were two main response formats. One was a standard Likert scale, usually having 5 choices: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 == Agree; 5 = Strongly Agree. The other offered a number of options where respondents were asked to mark "all that apply." Charts and tables of the results are contained in Appendix 5. References in the text to data panels are to those in Appendix 5. (Note that in those panels, ESGA is designated as "CODE." In each board survey, however, CODE was replaced by the name of initiative it was known by in that board.)

Next, we present a thematic summary drawn from the responses to the open-ended questions. The quotes were chosen to be representative of the major themes that emerged from a comprehensive analysis of all the responses to each question. The quotes are contained in Appendix 6 and references in the text to data panels are to those in Appendix 6. As is the case with the closed-ended questions, responses to these questions reflect a range of opinions and perceptions both within and across boards from teachers and other school professionals "in their own voice."

Closed-ended Questions

The first set of closed-ended questions in the project survey focused on respondents' familiarity with EfA and ESGA (the CODE project). As Panel 1 shows, there were generally high levels of familiarity with EfA with some variability across boards. Agreement with the principles of EfA registered a mean of the board-level averages of 4.43 (out of 5), with less variation among boards.

A second set of questions focused on changes in school professional culture since the introduction of ESGA. The results displayed in Panel 2 indicate that, on average, respondents strongly agreed that positive changes had taken place in their school – particularly with respect to recognizing the accomplishments of all students (mean = 4.32), achieving better collaboration among all professionals in meeting the needs of students with special needs (mean = 4.21), and staff

having a greater sense of collective responsibility for students with special needs (mean = 4.13).

A third set of questions (Panel 3) concerned changes in practice as a result of ESGA. Respondents were most likely to note that they had increased their time spent examining student work and in discussing data or other student achievement results with colleagues. Mean percentages across boards were 71 and 80 percent, respectively. With regard to increased engagement in collaborative planning, mean percentages were greater than 50 percent. The lowest percent change concerned offering "unsolicited suggestions to a peer," with a mean of only 22 percent.

Another cluster of closed-ended questions focused on the impact on practice of the provision of professional development to increase people's capacities and capabilities in collecting and analyzing achievement data (Panel 4). In general, there was moderate to strong agreement that there had been improved practices of data use (mean = 3.95) and adequate training in analyzing data (mean = 3.81). There was also modest agreement that more professional development in this area was needed. There was agreement that there was too much attention to data with the mean of 3.2 across boards registering beyond the midpoint (with two boards registering strong average agreement).

In addition to questions concerning data use as a whole, a further set of questions addressed the perceived utility, strengths and weaknesses of EQAO and its impact on practice (Panel 5). There was considerable variability across boards on all items in this part of the survey. This may have reflected the extent to which EQAO drew attention to the shortcomings and challenges of teachers or schools in some boards more than others, or to the more or less desirable ways in which EQAO data were employed in relation to change efforts. Overall, respondents registered disagreement with the statement that EQAO results provided an accurate measure of academic competencies (mean = 2.85) and strongest agreement with the statement that EQAO results were "not an appropriate measure of what students with special needs know and can do" (mean = 4.04). There was modest agreement that board concerns with EQAO results were driving too much practice and yet disagreement that those concerns distracted teachers from helping the students who needed them the most (mean = 2.77). Clearly, many respondents had concerns regarding EQAO and its impact, yet most still asserted that it did not influence their own allocation of effort.

A set of survey questions was specifically addressed to the educational experiences and outcomes of students with special needs (Panel 6). Here, there was generally strong agreement that since the advent of ESGA, these students were more likely to be mainstreamed (mean = 4.05) and were participating more fully in classroom activities, both academically (mean = 3.71) and socially (mean = 3.72). However, on both these last two items, there was considerable variability across boards, which likely reflected differences in boards' ESGA strategies. There was more modest agreement with statements that students were better able to advocate for themselves (mean = 3.16) and that they were making more rapid academic progress (mean = 3.19).

Some of the questions on special needs issues focused on the frequency and benefits of specific strategies of inclusive instruction such as differentiated instruction (DI), tiered intervention and assistive technologies. There was moderate to strong agreement that these strategies were beneficial (Panel 7). The strongest and most consistent responses concerned the benefits of differentiated instruction, assistive technologies, assessment for learning, and tiered intervention, with means ranging from 4.02 to 4.46. Together, the responses on special needs issues indicate that the study boards had implemented structural changes that had substantially altered the educational environment for students with special needs. However, the results in Panel 6 indicate, that progress toward academic goals appeared to be lagging in comparison to other aspects of their school experiences.

Open-ended Questions:

The open-ended questions provided respondents with opportunities to make more extended and less directed statements about their perceptions of the positive and negative effects of ESGA on staff and students, about the impact of EQAO, and about the interrelationships among reform initiatives of which ESGA was a part.

Respondents pointed to a number of positive effects of ESGA on students and staff. Chief among them was greater collaboration among all school staff (classroom teachers, SERTs, SLPs, etc.). As one teacher noted, "Classroom teachers often collaborate and consult with SERTs to better meet the needs of the students in their classrooms." Another remarked "DI support has helped to create an atmosphere of team teaching and has decreased competition between classrooms and grades." Many respondents wrote that such collaborations had led to ongoing, informal professional development, the emergence of a common language around student work, and more of a team approach to DI. Schools with stronger professional collaboration, as well as a correspondingly greater sense of collective responsibility, have greater capacity to address the needs of all students, fulfilling the promise of ESGA.

A number of respondents referred to the influx of resources that accompanied the advent of ESGA and that this had a notable effect: "[There's been a] huge influx of resources (Book Room, Essential Skills, teacher resources and training, guided reading tables etc.) all have had a positive impact on student achievement." Others remarked that
with the introduction of DI, and the small group instruction that is characteristic of DI. Students were more engaged in their school work and were making greater advances academically; others suggested that the use of technology also fostered greater engagement: "Tech is generally more engaging as well and so it has captured a population that was previously unmotivated and alienated by their learning differences." In point of fact, many respondents cited the increased use and better integration of assistive technologies in classroom settings as, giving students with special needs improved opportunities to learn and to demonstrate what they have learned. Others pointed out that these students benefitting from both inclusion and technology were now also better able to self-advocate.

> The students have developed a greater awareness of their learning disability and have developed self-advocacy skills. The use of the computer enables students to become independent learners, as well as role models.

Although the closed-ended responses indicated general approval of the increased use of assessment in support of instruction, a few open-ended comments offered a somewhat different perspective. In particular, some respondents expressed frustration with not being able to fully utilize the information: "Assessments reveal a student is struggling. Responding to data with appropriate instructional support continues to be an on-going challenge." Others argued that in their schools, the use of (diagnostic) assessments had been mandated and formalized so that it interfered with the natural flow of teaching.

> Students are people, and not just students. There are teachable moments outside of simple subjects and strands that are equally or more beneficial to those people, but are threatened by too much focus on data-documented results. The focus and push for data might have blurred some perspective on how appropriate it is to take time for the broader definition of teaching.

Some respondents expressed frustration that their planning time was now consumed with meetings, "Teacher time is being used more and more to meet with consultants on their planning time and lunches. Teacher need time to work with their grade partners for planning purposes." Not surprisingly, time allocation was frequently mentioned. For example, another common concern was that PD required teachers spending too much time away from the classroom:

> One complaint that I have is that there have been so many workshop days to support these programs that have taken me away from the classroom a lot. Also, there is a lot of repetition of information in these workshop days that make them inefficient.

By contrast, some respondents indicated that there was an urgent need for more PD and other types of support, especially with respect to the effective use of assistive technologies: "As teachers we are not versed in technology and are frequently forgotten in training sessions. These students are using the computers in our classrooms and we do not have the expertise to help them with problems." Another pointed to the time and effort required for technology upkeep:

> School has attempted to put additional technology supports into the system. However, the upkeep of these, the workability (i.e. classroom setup, connectivity to the wireless system, system being done...) This is a long and tedious process and is rife with difficulties. It is extremely time consuming with minimal outcome.

These comments highlight a persistent dilemma that arises with the introduction of innovation in the classroom: The need to provide ongoing training and support on the one hand, and cost constraints and time spent away from the classroom on the other.

The questions addressing EQAO elicited a great deal of comment. A number of respondents indicated that they found EQAO results useful, even for students with special needs. Teachers were able to use EQAO results to inform their instruction. As one teacher put it, "It gives me somewhat of a focus on areas that are lacking, such as problem solving in math, inferring in language, etc." Others saw EQAO results as just one source of evidence among many that could help teachers in crafting their strategies to help all students:

> The Board-level focus on EQAO results actually helps me compare my identified students to all students that have written the EQAO. We try to move our level 2 students to level 3, 3 to 4, etc. Teachers are trying to identify the gaps and try to close it. It is no different for our identified students. The individual EQAO results are considered one 'piece of the puzzle' because we also observe: DRA, ORR, OWA, OCA, Woodcock Johnson, and other informal testing.

Interestingly, when asked to comment on negative effects of EQAO, many respondents said there were none and that the EQAO reflected what they were trying to teach. Nonetheless, a number of concerns were expressed. There were a few comments regarding the disjuncture between the accommodations offered in class and those permitted on the EQAO, "What is frustrating is special needs students are given many accommodations to succeed in the classroom but when tested on EQAO nothing is in place to support them." Another teacher put it this way:

> I find that because EQAO is a paper and pencil test, it does not truly assess and evaluate our special needs students. These students are not able to show what they really do know. Throughout the year, these students have various choices for their assessments and evaluation and usually it is not a paper and pencil task.

Mirroring the findings from the close-ended questions regarding EQAO, some respondents remarked on the undue importance placed on EQAO:

> I personally think the Board and Administrators put too much emphasis on EQAO results. I teach what my students need to know (whether mainstream, accommodated, or modified) based on curriculum and in a way that meets their needs. If that helps them in EQAO, great, if not, there are more important lessons to learn than getting a good mark on EQAO.

This comment reflects a concern among some that a focus on the "Drive to 75" has led to distorted priorities. Nevertheless, the majority of respondents to the close-ended question agreed that the EQAO did not overly affect their instructional choices.

The final questions asked respondents to reflect on the impact of having multiple initiatives occurring simultaneously. Most respondents felt that the various initiatives in their boards were complementary. As one teacher put it,

> Yes, I think the various initiatives have strongly complemented each other. The Schools in the middle, OFIP, Teaching Learning Pathways, Critical Literacy Inquirys, Math Streams and Math SAT have all worked to better our teaching practices and focused on the varied learning profiles of students.

Another went further – referring to ESGA, the teacher averred "Yes they have complemented every effort in all divisions. I find our staff has a whole was drawn together in envisioning student success as a whole school effort and not a single grade teacher's

responsibility." This suggests that when initiatives are organized coherently and properly supported, they can generate positive synergies.

As might be expected, there were some dissenting views. One respondent put it this way:

> I think that there are too many initiatives coming down from the Board level and each one of them comes across as very important. These initiatives are time consuming and hinder the creativity and flexibility of the classroom teacher by placing a greater emphasis and focus on issues which are made by individuals who have been removed from the classroom setting for many years.

This comment captures well the gist of the remarks posted by those who felt that the sheer number of initiatives placed burdens on classroom teachers that were not only overwhelming, but also somewhat misdirected.

Summary of Survey Results

The purpose of the web survey was to gather evidence regarding ESGA from a larger sample of educators in the study boards than was possible during the site visits, and then cross-reference this evidence with what had been learned in depth during the site visits. As we noted earlier, the survey was administered in all but one of the boards. This was the principal function of the closed-ended questions, while the open-ended questions were a vehicle for respondents to express their opinions in "their own voice."

Analysis of the closed-ended survey results reveals that, despite the variability in boards' mean responses on the closed questions, which was to be expected in view of the diversity among boards in their composition, focus and implementation strategies; overall, there are still clear patterns in the responses that are also consistent with the findings obtained from the site visits.

Survey respondents agreed that, since the advent of ESGA, students with special needs were more likely to be mainstreamed and to participate in both class and social activities. Interestingly, they were less positive as to whether these students were making greater academic progress, even though the EQAO results clearly indicate a closing of the gap between the performance of these students and that of the student population as a whole. In conjunction with the shift in strategy to greater inclusion and fewer withdrawals, respondents registered high levels of agreement with the closed-ended statements that there was now greater collaboration among staff, more joint planning, and broader acceptance of collective responsibility for all students. The open-ended responses were largely consistent with these findings.

In terms of professional culture and pedagogical practices, respondents highlighted the importance of tiered interventions, differentiated instruction and the use of assistive technologies. They indicated that there was increased attention to examining student work, both individually and collaboratively. There was general agreement that practices had improved in relation to discussing and analyzing student achievement data but the mean scores of boards in this area indicated that most respondents felt the need for further training. The closed ended responses showed that there was moderate agreement that there was too much attention to data (in contrast to the use of professional judgment). Open-ended responses were more varied on this issue although a number of them noted that there was not enough time to administer all the assessments, to interpret the results properly and to use them effectively.

The survey responses pointed to a perceived need for more professional development on the uses of achievement data, but at the same time, a number of comments also highlighted how this resulted in teachers spending more time out of the classroom, with the attendant loss of instructional time. This conundrum is not easily resolved, although the practice of in-school coaching "at-the-elbow" that was adopted in many of the boards may be one of the ways to address it.

Despite respondents' moderate support for the increased use of various classroom assessments, they were in general agreement that there was too much attention paid to EQAO results and, in particular, that for many students with special needs it was not an appropriate instrument for determining what they could accomplish. Among the concerns that were raised were that it was a paper-and-pencil test that did not represent special education students' wider engagements with learning; that its standardized

format, along with limited accommodations, was not consistent with the individualized instruction received by the students; and that it was a blunt instrument used to evaluate teacher performance that was in effect a potential concern only in a small number of cases. At the same time, a number of teachers indicated that the EQAO did not impact their own day-to-day teaching – and special education resource teachers especially were likely to state that they found the EQAO results helpful in pointing to areas and students needing more attention.

The last two open-ended questions gave respondents an opportunity to address the perceived degree of coherence of the various reform initiatives. On this issue, most respondents indicated that the initiatives implemented in their schools were complementary and put students' needs at the forefront, although a number raised the problem of there being an overwhelming number of initiatives that were impossible to implement well as a result.

Qualitative Analysis

This section presents cross-case analyses of, and subsequent research findings regarding, the six themes that are essential to an understanding of ESGA and its impact on both students and educators. The themes comprise the areas of focus through which changes in ESGA were pursued: curriculum, instruction, assistive technologies and so on; and the change tools or processes through which these changes of substance were brought about: building professional cultures and cultures of data use, responsiveness to different kinds of diversity, and efforts to reconcile and harmonize the dual and sometimes dueling reform imperatives of inclusion and accountability The six themes are:

- Curriculum and Pedagogy
- Assistive Technology
- Professional Capital, Culture and Development
- Cultures of Data Use
- Responsive Diversity Practice
- Inclusion and Accountability

The themes were developed from a comparative examination of the board case studies, from the major contents of *Education for All,* which ESGA was designed to implement, as well as from the literature and research on educational change. The presentations of the themes highlight similarities and differences across the ten boards. The purpose of this cross-case analysis is to identify and explore the range of strategies and experiences with respect to each theme, with a view to pinpointing the importance of and variability concerning different issues, as well as the generalizability of inferences that can be made in relation to those issues across and beyond the ten participating boards.

Cross-case theme 1: Curriculum and Pedagogy

Introduction

Educational reform experts have proposed changes that they believe will affect many parts of the educational system in a country, a state or a district and its schools. These include changes in leadership, structures such as tracking or de-tracking, standards, and accountability. Far fewer reforms attempt to have a direct effect on the everyday organization and delivery of teaching and learning. *Education for All* (EfA), and its successor project, *Essential for Some, Good for All* (ESGA), attempted to do just this – to address and meet all students' needs by using differentiated instruction, assessment for learning and Universal Design for Learning. Drawing on the ESGA projects developed by the ten participating boards, this theme examines the variety of curricular and pedagogy programs designed, developed, and delivered by each of them. Employing the "Triple-P Core Components" of teaching and learning outlined by Fullan, Hill and Crevola (2006), we analyze the nature of changes in curriculum and pedagogy that were implemented during the three-year ESGA funding period to examine if there have been any "breakthroughs" in classroom practices.

Education for All

The EfA document advocated evidence-informed practices that would support Ontario's teachers to "improve and reinforce effective instruction of reading, writing, oral communication, and mathematics to students from Kindergarten to Grade 6 who have special education needs."[67] This document recognizes that students exhibit a wide range of learning needs or "exceptionalities."[68] Such students may experience difficulties learning reading, writing, or mathematics; they may struggle to master English if they speak another heritage language; they may be academically advanced and require more challenging learning experiences; or they may need more motivation to be engaged in school.

EfA represents a marked shift in the approach towards the teaching of students with special education needs -- from a deficit model of learning to one that is asset-based. It begins from, and is mindful of, students' strengths and needs. Arising from these principles and its commitment to the "whole child,"[69] EfA provides theoretical foundations and practical examples for curriculum and teaching, employing Universal Design for Learning and Differentiated Instruction, Assessment and Evaluation, Developing Learning Profiles,

Professional Learning Communities, Research to Practice, and Effective Instructional Approaches and Teaching Strategies for Literacy and Numeracy. It serves as a one-stop curriculum and pedagogical guide for teachers, principals, and coaches. EfA also encourages teachers to harness the affordances of technology so that all students are able to access and experience the variety of learning activities.[70]

EfA's approach to curriculum and teaching draws heavily on constructivist learning theories. Approaches like *differentiated instruction* require teachers to shift their practices from a "program-based" to a "student-based" pedagogy.[71] The document draws on theorists like Lev Vygotsky who emphasized the importance of the social context of learning. EfA promotes Carol Ann Tomlinson's model of Differentiated Instruction, in its emphasis on differentiating the content, process, and products of learning according to students' interests, readiness, and learning profiles.[72] In addition to providing a selection of generic teaching strategies, the EfA document also devotes two chapters to precise instructional approaches in literacy and numeracy. Finally, pedagogic accommodations are proposed through the harnessing of assistive technologies, including both hardware and software.

In EfA, the *curriculum* informs teachers about *what* to teach, while pedagogic practices like differentiated instruction, cooperative learning, project-based approaches, and problem-based learning guide teachers in *how* to teach.[73] At the same time the document also acknowledges the value and purpose of more traditional and explicit instruction.[74]

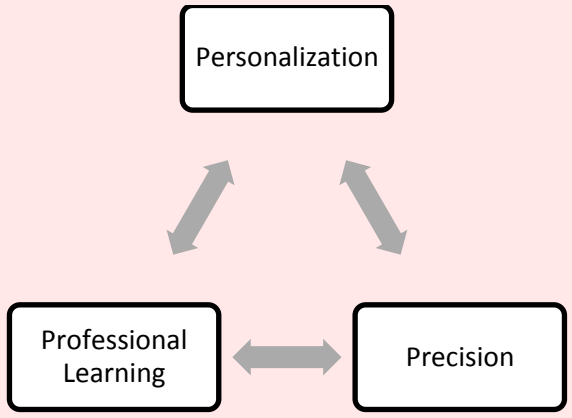
The Triple-P Framework

Eight years after the launch of ESGA, what evidence is there of changes in classroom practice? This chapter presents the findings employing the framework of "Triple-P Core Components" developed by Fullan, Hill, & Crevola (2006, p. 15) with respect to how much, how well and in what ways the ten participating boards designed, developed and brought about "breakthroughs" in classroom practices.

The three P-components are personalization, precision, and professional learning. *Personalization* of curriculum and pedagogy refers to education that is adapted and customized to each child's learning and motivational needs; *precision* supports personalization in that it requires teaching to accurately meet an individual's learning needs; and *professional learning* stresses the importance of teachers engaging in ongoing learning, individually and collectively (Fullan, et al., 2006).

In concert, these three components are meant to bring about a *breakthrough* so that the public education system is able to support and serve virtually all students (Figure 1). The breakthrough framework, its authors say, is guided by a compelling "moral purpose" which can drive teachers to set high standards for students, teach to high standards, provide early intervention, and engage in continuous professional learning (Fullan, et al., 2006, p. 12).

Figure 4.1.
Interaction of the three P-components for curriculum and pedagogy in the ten participating boards[1]



Personalization

Personalization is an approach to teaching and learning that puts the student at the center of education (Fullan, et al., 2006). At any given moment, teachers are ready and able to adapt their instruction to

[1] The three P-components in this figure are created based on our view of their interaction within this study. The figure differs from that presented by Fullan et al. (2006) in *Breakthrough*.
[2] Some of the most commonly referenced assessments were

students' learning and motivational needs. Personalization is exemplified in curriculum and pedagogy through the application of Universal Design for Learning and the use of strategies like Differentiated Instruction and tiered intervention. Putting the child at the center is not the same as a child-centered approach, however. Putting the child at the center is designed flexibly around students' needs whereas child-centered education goes further: it involves students more fully in determining the teaching and learning process in ways that engage their own lives and cultures (Hargreaves & Shirley, 2012).

In ESGA, personalization in the first sense of adaptation and customization was evident in the pedagogical approaches that teachers adopted. ESGA's flexibility enabled each board to construct a distinctive curriculum experience that responded to local needs. The result was a mosaic of curriculum and pedagogical practices across the boards. Based on the principles of personalization, the curriculum in each board in the study was systematically and strategically focused on the needs of the students with respect to their different backgrounds (e.g., low income, migrant population, English language learner, First Nation status). Personalization required schools and teachers to have detailed knowledge of how children learn in order to establish classroom routines, and to motivate and engage students by skillfully using a variety of teaching strategies (Fullan, et al., 2006).

Prior to ESGA, personalization of the curriculum in relation to special educational needs was based on students' identification status. In the 1990s, under the Intensive Support Amount (ISA) policy, students identified with special education needs were withdrawn from the classroom, away from the mainstream curriculum, to the Special Education Resource Room where they received individualized curricular support. Under the ISA policy, rather than adapting pedagogy in order to support students, classroom teachers relied on Educational Assistants (EAs) for support, leading to an "unintentional dependence" on EAs.[75] One senior staff member expressed misgivings about this practice. "The thinking was wrong," he said, "because really [the] most vulnerable learners that need the most (support) should be taught by teachers, not educational assistants."[76] In contrast, EfA's philosophical approach encouraged school boards and teachers to be more creative in how they made curriculum and learning opportunities more accessible to students with special educational needs. Designing curriculum and pedagogy according to the needs of the child involved the skillful deployment of a mélange of strategies suggested in EfA, as well as innovative adaptations and combinations of strategies in hybrid models. The different strategies used by the study boards (itemized in Chapter 3, Table 3) indicate the influence of EfA's recommendations in this respect.[77] Together, the combination of differentiated instruction, with other strategies such as cooperative learning, project-based and problem-based approaches, and explicit instruction became a basket of "high yield" strategies that teachers drew on to vary their teaching approaches so as to cater to the needs of different students.

The extent to which, and the ways in which, school boards addressed teaching and learning issues under ESGA depended on the amount of funding they received. Since each school board was given the same amount of ESGA funding, the smaller boards had more to spend per student capita than larger boards. This perhaps explains why in several smaller boards in the study, including Boards 6 and 10, all students in the targeted grades were directly exposed to the ESGA project. In the larger boards, schools and students were either selected or asked to apply to participate in ESGA programs. As a result, in the two largest boards, the curriculum developed with ESGA funding was restricted to a subset of participating schools. For instance, the largest board participating in this study developed a program that used assessment to guide individualized instructional interventions at the kindergarten level.[78] The recruitment of a pioneer cohort of schools in this board was based on the characteristics of the student population as well as on each school's commitment to undertaking the reforms.

Across the province, personalization of teaching and learning for students varied according to their grade level. Some boards targeted kindergarten while others designed programs for middle school students. Some boards confined their program to the same grade level throughout the three years, while others extended the program to more grades over the duration of the funding period. In The flexible implementation of ESGA enabled boards to adapt and apply EfA's principles based on local needs and goals for curriculum and pedagogy. Personalization of learning required teachers to assign "respectful tasks,"[79] that did not alienate the student and that were tied to the curriculum. Respectful tasks are pitched at the student's level and are developed to make all students feel included in the lesson, regardless of their ability. This approach requires teachers to know their students well. At one board, the board-office staff maintained that a lesson would not be deemed a success if it did not match the needs of individual students.[80]

Box 1.

ESGA's flexible implementation enabled boards to customize the project to local needs. One board applied the strategies to Religion while another extended learning outside of school.

While all boards focused on literacy to a greater or lesser extent – in line with ESGA's intent to integrate the project with the wider literacy and numeracy strategy – several boards embraced a wider conception of the curriculum. For instance, one board moved from using disparate strategies for writing and reading to an integrated framework focusing on higher-order thinking skills that was applicable to all subjects. At this board, teachers drew on the integrated framework to teach subjects like Religion. Pen-picture 1 presents the gradual evolution of the reading and writing strategies in this board into an integrated higher-order thinking framework.

Pen-picture 1: *Combining reading and writing strategies into an integrated framework*

Pre-CODE / CODE Year 1 (2005-2006)	CODE Year 2 (2006-2007)	CODE Year 3 and Post-Code (2007-present)
Reading curriculum (Primary) • Guided reading • Accountable talk • Reading assessment • Reading framework Writing curriculum (Junior) • Writing traits • Writing framework • Writing rubric • Writers notebook • Clustering writers	Reading curriculum Writing curriculum Thinking (Intermediate) • Thinking zones • Thinking framework • Multiple intelligences • Clustering thinkers • Thinking rubric • Reader's-Writer's notebook	Target achievement for all (Encompassing reading, writing, and thinking) curriculum • Universal design for learning • Assessment for, as, of learning • Flexible grouping • Differentiated instruction • Critical and creative thinking • Systematic and explicit instruction
Target population: Primary, Junior, Intermediate levels		

one board, for example, while only Grade 5 male students attended assistive technology sessions in the technology centers in the first year of ESGA, in the following year, the program was extended to female students and also to Grade 6 students. The extension of the program meant that the number of schools selected as centers to develop pupils' technology skills, self-advocacy and pride in learning increased from one to three. Finally, while the majority of the boards developed programs for students from K-6, two boards extended the program beyond middle school (Box 1).

A wider conception of the curriculum includes developing personal and civic aspects of the child. One board created an *out-of-school experience,* with students taking cosmetology courses contributing services to the elderly within the community,[81] while another board emphasized the development of self-advocacy skills so that students would be able to assert their capacity to learn differently within regular classroom settings.[82] These boards' approaches to the curriculum illustrate the power of the inspiring belief system that is among the architectural and design principles of ESGA described in Chapter 3.

In EfA, pedagogy is construed as *how* to teach.

Box 2.

The kinesthetic part- it's busy. [When] they built shelters, you could hear a pin drop in the classroom. And there's hammers and things moving around but at the same time they're all working and they're engaged and I have feeling that they will remember that project more than they'll remember something they wrote for me. But we structure that for them too at the same time so … we don't just dive into the kinesthetic task.

This was translated into the many different approaches the boards used to integrate ESGA with existing curricular programs in the teaching of literacy. For instance, the ESGA project in one large urban board built on a literacy effort that had begun four years earlier. To this end, this board's ESGA project developed from an earlier effort that targeted at-risk Junior and Senior Kindergarten students "to examine student literacy development and how literacy skills are affected by the use of evidence-based practices, assistive technology and the efforts of school support teams."[83]

Pedagogical practices based on Universal Design for Learning principles involve planning for flexibility, providing support, and making adjustments to enable all students to have full access to the curriculum.[84] As a result, planning to teach entails more than developing a master plan to teach students with average achievement levels followed by after-the-fact modifications. Instead, it consists of a concerted effort to design a lesson based on the profile of students in the class. This means that educators seek ways to modify the curriculum and instruction as opposed to expecting students to alter themselves to fit the curriculum.[85] This also means that teachers consciously plan to meet the needs of *all* students, instead of just those with special needs.

The pedagogical approaches based on UDL involve knowing each child's strengths, learning styles, and learning needs before deciding on the choice of pedagogy. Differentiated instruction requires teachers to meet students' diverse needs by differentiating content, process, and products.[86] Pedagogical materials may vary by form, level of difficulty, and presentation, as well as how they tap into multiple senses.[87] In terms of varying the form of pedagogical materials, teachers from one board designed "collective units" which allowed for more diverse points of access while still encouraging participation in the provincial curriculum. For instance, at the elementary level, teachers designed very different "routes" to obtain similar responses from students on the same topic.[88] This allowed several entry points into similar expectations for learning.[89] The consequence of such planning is a high level of student engagement as indicated in Box 2,[90] which illustrates one educator's observation of students' engagement in a lesson activity that was designed around the principles of multiple senses.

To personalize curriculum and pedagogy, some boards profiled students and their backgrounds before making pedagogical decisions. Knowing and understanding students included getting to know them and their families, which, in Theme 5 of this chapter, we regard as being a form of *responsive diversity practice*. A principal from one board that served a large Old-Order Mennonite population met students and their families at the grocery store, and volunteered to help them carry their groceries home. This principal strongly believed that such experiences enabled him to understand how these students lived. Developing relationships in this way benefited the school because there were positive impacts on students' academic performance as well as the development of stronger inclinations to stay on in school among girls who had previously had a high dropout rate. In another board,

teachers helped pupils to understand their learning styles and needs, and then planned their lessons based on this information. As a result, lessons involved "a lot of movement and transitions and singing and acting."[91]

Such profiling enabled teachers to be aware of students' learning needs, and guided them to determine the amount of scaffolding that was needed to enable students to achieve and gain confidence, before they could be left to work independently. This strategy of "gradual release of responsibility and scaffolding" is aligned with Vygotsky's (1978) "zone of proximal development." With a "gradual release of responsibility" learners initially accomplish more when they have the assistance of a more skilled or experienced mentor - a teacher or a peer - and progress to learning on their own when the scaffolding is removed (Box 3). This practice differentiates instruction according to students' level of readiness. Teachers gradually increase the cognitive load as students become more confident and competent. This "gradual release of responsibility" resonates strongly with the work of Pearson and Gallagher (1983), in which the ultimate goal is for the students to get to the point where they are able to assume total independence and responsibility for the task. More recently, Fischer (2008) and Fischer and Frey (2008) suggest the following steps of gradual release:

- *I do it* (teacher's focus lesson);
- *We do it* (guided instruction);
- *You do it together* (collaborative work); and
- *You do it alone* (student works independently).

Box 3.

Gradual Release & Scaffolding

1. Teachers model a literacy task.
2. Teachers work on the task with pupils.
3. Teachers assign pupils to work individually or with peers.

When it is used during literacy instruction, this process is consistent with *personalization* because teachers employ a mix of instructional strategies for large and small groups to help students develop the skills and strategies needed for success (Fischer, 2008).

In summary, the diversity of curricular and pedagogical practices such as diagnosing learning styles, varying assessments, and providing different levels of scaffolding and release, indicates that across the boards, there was a considered and concerted commitment to redesigning curriculum and pedagogy so that they fit the students, instead of expecting students to fit into a standardized program. Pedagogical practices changed because of ESGA. There was more activity in the classroom and there were more varied strategies based on teachers "knowing each of our students."[95] Equipped with these pedagogical strategies and ideas, teachers were "not the same teachers as they were before" as they had "been influenced for life."[96] The consequence of using these strategies for personalization is that teachers have "got more students that are more comfortable in the environment."[97]

Gradual release was witnessed in two of the boards. In a lesson in one board, for example, that required students to use graphic organizers, a teacher had to be cognizant that some students would be more likely to accomplish more on their own at a faster pace while some students would need extra support[92] . So she modified the graphic organizer for some students - filling in the first line of the chart to provide an initial example to follow. After modeling the graphic organizer and working a bit with the whole class, she then organized students into smaller, carefully chosen groups to allow for a mixture of abilities. Whenever she noticed that a group was struggling, she jumped in to offer guidance.

Application of the principles of Universal Design for Learning and Differentiated Instruction also extends to assessment. At one board, assessing students goes beyond the use of paper-and-pencil tasks or writing a report. "It can be a project. It can be a song. It can be theatre or a movie."[93] This approach is based on the principle of giving students "the chance to prove themselves in multiple ways."[94] It is differentiated assessment; not just differentiated instruction.

Precision

Precision pinpoints how personalization is practiced. Precision requires teaching and learning to be "uniquely accurate to the learning needs of the individual" (Fullan, et al., 2006, pp. 17-18). Precision is crucial to supporting personalization because it requires

teachers to be acutely aware of each and every student's learning needs. Precision involves accuracy in identifying and diagnosing students' needs, and requires the systematic and strategic use of achievement data. Some ways to ensure precision include communicating standards clearly, supporting teachers in interpreting and analyzing data, receiving feedback in terms of achievement scores, and adopting an ongoing process of monitoring and tracking (Fullan, et al., 2006).

Through ESGA, a great deal of attention was devoted to precision in designing curriculum and pedagogy through professional development, the distribution of resources to classroom teachers, and the use of diagnostic tools for profiling students. These measures ensured that schools and teachers were more accurate or precise in identifying students' needs before selecting teaching strategies.

Effective personalization is premised on taking students' preferred learning styles into consideration during lesson planning and delivery. With greater precision, personalization becomes more than a good intention or intuitive decision, but a specific and accurate diagnosis of students' learning needs and of their academic progress. Boards profiled students using a variety of diagnostic tools such as Diagnostic Reading Assessments and Running Records to identify student needs, to guide the selection of differentiated instruction strategies, and to make tiered interventions. The "tiered" model practiced in one board involved writing an Individualized Education Plan (IEP) for each child to help educators plan for their unique learning needs.[98] In another board, students were categorized according to tiers based on their learning needs. Differentiated levels of support were then provided (Pen Picture 2).[99]

Pen Picture 2: *Illustration of tiered intervention*[100]

Tier 1 Students categorized as Tier One, with less severe needs, remain in the classroom and receive accommodations.
Tier 2 Students requiring Tier Two interventions need small group instruction or other support that is layered on to the regular classroom instruction. This is provided by teachers who receive additional assistance where possible from the learning support teachers. If a student's needs are significant and require additional support, half of their day can be spent in the special education room where they can focus on literacy and numeracy.
Advanced Tier 2 and Tier 3 Students with more complex needs, such as students who are nonverbal, are placed in an advanced Tier Two or Tier Three category, and attend a full day program, which may still be housed within their school or a neighboring school. Placements for these students are at the system level, and they may not be housed in their home school if resources are not available.

To help teachers adapt their teaching for students with special education needs, four boards developed binders, "kits" and other resources such as manipulative learning materials and IT portals for classroom teachers. The binders or kits were meant to support teachers by providing an array of strategies they could use with their students. In general, teachers and principals valued the "books and resources that work at different levels."[101] One teacher said that this enabled her to vary her tasks and teach "according to [her students'] level in reading." [102] One board provided tools like manipulative materials for mathematics teaching and published guides on differentiated instruction techniques. In another case, teachers appeared at the research interviews holding on to the "magazines" provided by their board and enthusiastically described the strategies they contained, then discussed how they identified and selected strategies from this menu of options. A senior Board member summed up the teachers' endorsement of the "magazines," saying that while "they welcomed the pattern they could follow," there were so many ideas that "there's still so much flexibility for the teacher to choose content and [in the] interest of kids and still lots of room for professionalism."[103]

Senior board staff did not intend these various teaching aids to be prescriptive. However, some teachers reported that they were "very hard to go through because there's so much stuff on the pages that it gets a little "overwhelming."[104] This perception may be connected to parallel efforts to create and to some extent enforce a common language of curriculum and instruction, as well as common tools that were consistent with this language, The range of tools, strategies, and approaches promoted a common professional language of personalization, precision and differentiation that, on the one hand, was a form of support, but also a move to secure fidelity to specific practices on the other. This is evident in the almost ubiquitous use of tools and artifacts like word walls and anchor charts.

Anchor charts, as we will see in Cross-case theme 3, represent an effort to promote similar language and emphasis on common points within a community of practice. At one board, this precision was evident in the classroom where teachers put up anchor charts on the walls to remind students of the "look fors" strategies for reading and writing. Anchor charts at another board served as tools for both teachers and students. They conveyed a set of clear, common objectives across a grade level's classrooms for each unit or concept (Box 4).[105] These charts, we were told, were hung in highly visible places in far more

Box 4.

Anchor charts are home-made posters.
They serve two purposes:

1. Create alignment among teachers by reminding them what they and their colleagues have agreed are the essential concepts for a given unit.
2. Remind students of the keystone skills they are expected to master during a given unit.

classrooms than before the ESGA effort.

According to teachers, the prominence of the anchor charts in classrooms and corridors enabled students to identify the strategies that worked for them, and then to self-advocate by asking their teachers to use these strategies. As a result, teachers at the middle and high school levels in one board suddenly started to receive student-driven requests to use a variety of "high yield" strategies. For example, students were saying "this is what I need you to do in order for me to be able to understand your course. I'm really interested in history, but this is what I need so that I can learn it."[106] A special education coordinator at this board noticed that "[w]hen kids learn to articulate it and they advocate for themselves, that also changes teacher perspectives and practice."[107] A secondary school principal in another board described students "coming up and saying, 'You know what, I'm a visual learner so if you would just let me do it this way, I would be much more successful'."[108] Requests like these have made secondary school teachers curious about differentiated instruction.[109] This dynamic of student-driven advocacy and change may foster the gradual adoption of strategies promoted by ESGA at the middle and high school levels.

In summary, the focus on precision in teaching has resulted in the adoption of a diversity of evidence-informed, "high yield" classroom practices that have been guided by careful understanding, diagnosis, and identification of pupils' profiles, learning needs, and learning preferences. On the other hand, artifacts like data walls and anchor charts have promoted standardization of, and fidelity to, particular practices. Walking down the school halls of some boards, there is therefore a paradoxical juxtaposition of variation in classroom strategies with common anchor charts and word walls. This amounts to a kind of *standardized personalization* where every teacher in every school is urged to personalize their strategies in a precise way according to evidence-formed principles and data-driven diagnoses of students' just-in-time needs. This juxtaposition is also a kind of *personalized standardization*, where there is a strongly advised (sometimes interpreted as directly prescribed) menu of components of differentiated instruction embedded in an imposed common language, as well as in commonly enforced and ubiquitously visible curriculum and pedagogical planning artifacts.

Box 5.

The cycle begins with a consultant/specialist serving as a coach and distributing literature and resources, observing lessons, modeling strategies, offering feedback, and facilitating discussions.
Groups of teachers discussed their classrooms, took away lessons, experimented what they had learned in class, and reflected on their practice.

Professional Learning

The third component of the Triple P-framework, *professional learning*, stresses the importance of teachers' daily learning, as individuals and as a community (Fullan, et al., 2006), in support of personalization and precision. Professional learning and development are further discussed in Cross-case theme 3. The point to emphasize here is that the principles of professional learning in many ways replicated those of classroom instruction that were advocated by EfA—being differentiated and personalized in nature, precise in their focus and also prepared to employ the principles of "gradual release."

In the first year of ESGA, according to one senior policy official, the Ministry assigned two of its six required professional development days to introduce teachers to the recommended EfA strategies. In subsequent years, some boards and schools appointed resident coaches in schools to deepen professional dialogue and practice - mirroring the principles of individualized instruction and Universal Design for Learning that were being implemented in classrooms.
Just as differentiated instruction for student learning was based on knowing the child and his or her background and readiness level, school-based or job-embedded professional learning sessions were based on the needs of the respective boards and schools. Teacher learning, like student learning, was targeted and systematic. In the same way that students were gradually released to work on tasks by themselves when they were confident and ready, teachers were also gradually released to try strategies on their own after watching demonstrations by colleagues or on videos, by

co-teaching and co-planning with coaches and colleagues, and finally by trying to implement the EfA or board-identified strategies themselves. The scaffolding of guided support tapered off only when teachers felt sufficiently comfortable to venture out on their own (Box 5). In one board, after the coaches departed, many teachers had "a good strong comfort level" because they had built up "a good understanding of why it was set up and how to move it forward."[110]

In several boards, the "gradual release" strategy applied to cohorts of teachers as well as samples of schools. In these instances, rather than mandating that all teachers attend professional development sessions to acquire strategies of differentiated instruction, enthusiastic teachers who were known as "goers" in one board,[111] were the first to participate in the project. Initially, not all teachers embraced the common principles and beliefs embodied in EfA. Many were nervous about meeting a wide range of student needs and anxious about being able to use the plethora of EfA strategies skillfully. Indeed, former Deputy Minister Ben Levin had been one of the first to recognize this need to develop teachers' capabilities so they would be able to implement the ideas that EFA embodied – and this was one of his prime reasons for supporting ESGA. When the enthusiastic pioneers in some ESGA projects reported the success of these new strategies in supporting student learning, their testimonies often motivated and encouraged their colleagues to find out more about the strategies. One of the first DI coaches at one board recalled her own experience:

> You really like the graphic organizers? Here's a few, and why don't we try it in the classroom, no pressure and then, a couple days later go back and how are you doing? And you get more invitations into the classroom.[112]

Personalized professional learning was sometimes offered in particularly innovative and inspiring ways that resonated with EfA's philosophy. Just as EfA advocated respectful teaching in classrooms, professional learning again mirrored the same approach. One public board designed professional learning time to be engaging – "respecting the fact" that teachers would be undertaking it after a long day. So this board invited teachers to attend book clubs four nights a week over a month, under the banner of "Dinner and a Movie." Dinner was provided at each session, and videos featuring particular teaching strategies were shown as teachers munched away on popcorn, snacks and drinks. The book clubs involved teachers reading and discussing the assigned book, which typically focused on a professional development topic. Each evening session then became a "celebration" to make teachers feel "valued."[113]

In essence, these systematically structured and sustained professional learning sessions enabled teachers and school leaders to acquire the "same language of reform,"[114] ensure accuracy and fidelity in the use of the strategies, and serve as platforms to deepen and spread the change process. Consequently, more teachers were made cognizant of the reforms, especially those working in the larger boards where the ESGA project only involved selected schools. Although the process was slow and deliberate, to teachers this model of professional development was more effective than "a talking head"[115] at a "ballroom" setting of 80 or more teachers.[116] The flexible professional development model was "small, localized, and job-embedded"[117] "If they had been very prescriptive and closed about what the focus of the project could be, that would have crippled the creativity and possibility" of the program.[118]

Continuous and carefully customized professional learning over a sustained period led to greater fidelity to the desired pedagogical approaches. This intensive and insistent emphasis on professional learning within ESGA had many perceived benefits, especially when contrasted with more traditional professional learning models with which educators were all too familiar. In comparison to the "spray and pray" approach that was viewed as being moderately effective in the early stages when the underlying principles of EfA were introduced, the targeted, localized learning sessions were convened over a number of sessions throughout the school year. At each session, teachers at one board discussed their classrooms and took away lessons, went back to classrooms to implement what had been learned, and then reflected on their teaching. By the third year of ESGA, administrators reported that teachers were more likely to experiment with and reflect on new teaching strategies. New habits of professional learning were becoming institutionalized,[119] because such methods of

learning made the strategies "more real and more authentic and more linked to the classroom."[120]

From time to time, the process did also have some ironic consequences for students' learning, however. Because supply (substitute) teachers vary in terms of their teaching experience and ability,[121] the consequence of attending one or more days of in-service training in any given week meant that lessons and concepts sometimes had to be re-taught,[122] and the students that the professional learning was actually designed to help through ESGA became the casualties of lost instructional time. These "kids aren't learning to the same degree when there's supply teachers because "they're being pulled out" and moved to the resource room due to the fact that supply teachers were unable to provide the "high yield" strategies of differentiated support.[123]

Conclusion

In his research examining over a century of classroom practices in the USA, Larry Cuban (1984, 1993) reported a litany of failed reforms in curriculum and instruction in which teachers' behaviours remained unaltered. Plausible reasons for the persistence of a traditional "grammar" (Tyack & Tobin, 1994) of teaching include the role of schools as a form of social control and sorting, a culture of teaching skewed towards stability of routines and educators' perceptions of child development, the purpose of schooling, and classroom authority (Cuban, 1984, pp. 9-11). Were EfA and ESGA successful in challenging this historical pattern?

One clear change has been a shift from identification and placement of students with special educational needs towards a vision and practice of classroom teaching and learning that has enabled a large proportion of students with exceptionalities to remain in, and experience the curricula offered in, mainstream classrooms. Inspired by EfA, the boards participating in this study revisited and renewed their approaches to classroom pedagogy and its delivery in order to bring about improvements in student achievement. Across the ten boards engaged in this study, more students with special needs now have access to the curriculum delivered in the regular classroom because there are fewer instances of students with special educational needs being withdrawn to the Special Education Resource Room. Pedagogical practices have shifted to enable these accommodations—with teachers now purposefully selecting from an array of "high-yield," evidence-informed teaching strategies. Together, SERTs, classroom teachers, and coaches carefully diagnose student needs and actively discuss and select appropriate pedagogies that help all students to succeed. Rather than employing a deficit model of learning and achievement, where students with special educational needs are regarded as lacking important capabilities that "normal" students possess, teachers now embrace an asset-based approach that is mindful of all students' strengths and learning profiles.

For many of the boards, the most successful translations of vision into practice occurred when teachers, through strong messaging from the boards, attendance at professional development sessions, and adoption of common language and curriculum tools, recognized that using a wide repertoire of strategies had the potential for supporting more students than just those who had been identified as having special needs. Thus, through a diverse array of curriculum projects and teaching approaches, these ten boards transformed the education of students with special needs from one of identification and segregation to an emphasis on pedagogical skill and classroom practices of the kind former Deputy Minister Ben Levin originally wanted to see developed among more of the province's teachers.

Despite these significant developments, there were no overall changes to the written curriculum, especially outside the foundational areas of numeracy, which also occupied comparatively larger proportions of the school day than previously. In this respect, the pedagogical changes that came about because of ESGA and other related reforms are still "incremental reforms" (Cuban, 1993, p. 3), rather than transformational ones because they focus on improving the efficiency and effectiveness of the curriculum that currently exists through precision-like processes of differentiation, tracking and accommodation. Pedagogy was broadened, differentiated, customized, monitored, delivered and adjusted more efficiently and effectively. At the same time, apart from the important instances of student self-advocacy, the pedagogies and the

pedagogical design processes were still teacher-driven rather than student-driven. Nor was the curriculum outside the area of literacy instruction fundamentally transformed to promote innovation, for example, or to increase student engagement with new curriculum content. Indeed, while teachers in one board were proud of the increased achievement they had seen among their formerly struggling students as a result of their concerted efforts in monitoring, tracking and intervening in literacy instruction, they complained that because the focus on literacy improvement was so relentlessly serious and all-consuming, all the things that students and teachers were passionate about in their learning and teaching, had to be moved into after-school activities. This is an indication of what ESGA did and did not transform, and casts light on how what personalization actually comes to mean and how it is interpreted in practice.[124]

The practices across the ten boards are equivalent to *standardized personalization* and *personalized standardization.* They deliver and customize an existing curriculum but show much less evidence of making the curriculum personally meaningful and engaging by connecting it in inspiring ways to students' lives and life projects in the sense described by UNESCO in its classic report on *Learning: The Treasure Within* (International Commission on Education for the Twenty-first Century, 1996).

There was certainly personalization in terms of how teachers varied and selected their pedagogy from a specified menu, and in relation to how they painstakingly scrutinized and tracked student test scores in order to make further instructional decisions and interventions. But this process of what some have critiqued as being merely customization (A. Hargreaves & Shirley, 2009; McRae, 2010) differs from David Hargreaves' (2004) conceptualization of "personalizing learning," as a process that involves teaching and learning being designed around—not merely responding to—students' needs through components such as learning-to-learn and the development of student voice (e.g., A. Hargreaves & Shirley, 2009; Levin, 1994, 2000; Rudduck & Flutter, 2004). As the discussion of data cultures in Cross-case theme 4 and the analysis of the tension between accountability and inclusion illustrated in Cross-case theme 6 will demonstrate more extensively, these processes of precision and personalization were, to some extent, driven by the accountability-related pressure to secure continuing gains in student performance. This differentiated and customized process of pedagogical delivery and just-in-time intervention usefully accommodates the existing curriculum more effectively to the range and realities of diverse classroom learners, and propels the move to raise the bar and narrow the gaps. However, the pace and pattern of this customization leaves no time and little place for other kinds of curriculum engagements – including those that embody a kind of "saving stillness" that "refreshes and restores a person" (McRae 2010) and that is integral to the idea of learning for life.

The evolution towards a deeper and richer conceptualization of *learning* may of course occur in time. Until that point, ESGA and Ontario's overall educational reform strategy remains, in Cuban's sense, a powerful version of "incremental reform" (Cuban, 1993, p. 3) rather than a radical or disruptive transformation of the kind that Christensen (1997) discusses in *The Innovator's Dilemma*. To say this is not to criticize EfA or ESGA. It is simply to recognize that, in curriculum and pedagogical terms, it amounts to an extreme improvement, rather than a profound transformation. Where such a transformation is more likely to be found, perhaps, as we will see in due course, is in the philosophy and practice of inclusion.

Cross-case theme 2: Assistive Technology

Introduction

School systems are increasingly looking to assistive technology as a tool to improve the achievement of students with special educational needs. However, assistive technology is not simply a device such as a laptop or a piece of software. Nor is it a single investment in time and resources. It is as an interconnected system that encompasses planning, professional development, personnel, and equipment. The concept of a system, as Seymour Sarason (1990, p. 15) described it, refers to an interconnected collection of parts that "stand in diverse relationships to each other" "Between and among those parts are boundaries of varying strength and permeability."

There is a tendency to view technology as simply one isolated component of the educational process; to see that, in Sarason's terms, technology, curriculum, instruction and assessment are separate "parts and not a complicated system: *their* parts, *their* tasks, *their* power or lack of it." For example, many schools focus technology resources on stand-alone computer labs that serve as an oasis from the normal rigors of instruction or academic curricula without incorporating the technology into regular processes of teaching and learning. This diminishes and displaces the value of technology in supporting student learning. Recognizing that assistive technology is not a solitary or separate component of school life will increase the chances of success in using it to help students learn.

Modern computer-related technology, including hardware, software and web-based platforms for forming collective intelligence around learning, needs to be contrasted with more historical forms of classroom technology such as graph paper, the chalkboard or the spiral-bound notebook. This report and this section use Wiley's (2000) definition of educational technology as "any digital resource that can be reused to support learning." Pak Tee Ng (2010, p. 177) has further refined the definition of digital or computerized technology as "all electronic media such as computers, video, internet, mobile devices and the associated hardware, software and networks that enable them to function."

Assistive technology represents a particular type or use of digital technologies. *Education for All* cited Edyburn's (2000) definition of assistive technology as "any technology that allows one to increase, maintain, or improve the functional capabilities of an individual with special learning needs" (p. 127). This definition also distinguishes the digital technologies that comprise assistive technologies from more traditional forms of technological assistance for people with disabilities such as wheelchairs, hearing aids, or eyeglasses.

Education for All

Education for All emphasized that assistive technology has the potential to support the learning needs of all students and that, through the use of universal design, teachers can ensure that every student has equal access to the curriculum. Assistive technology, it argued, has the ability to build on individual student strengths, increase student engagement and motivation, promote student independence, and raise student achievement. In addition, it argued, although assistive technology may be directed at supporting special education students, many of its features "turn out to be advantageous for a broad range of individuals, not just those with special needs" (p. 127). Indeed, it is the customizable nature of modern technology including digital media that makes it to so valuable to universal design. The creators of Universal Design for Learning recognized the flexibility of digital media and their power to create customized learning environments for students (Rose, 2002). Software in general, Education for All continued, can serve as a virtual "toolkit," offering a variety of resources that can provide value to students of all ability levels and empower teachers to identify the tools that will support a particular student. EfA also recognized four powerful psychological benefits of assistive technology.

- *basic skills*: drill-oriented activities are generally more engaging when they are digitized - an important advantage for students with attention difficulties.
- *integration*: computer-use can often be integrated into the regular classroom environment, lessening the need for

withdrawal. As some boards are exploring "one to one" programs where each student is provided with the same device like a laptop or tablet, there is greater potential for using assistive technology seamlessly.

- *stress:* assistive technology can mitigate student stress. "Students often see computers as non-threatening. Being corrected by a computer can be far less threatening than being corrected by another person" (p. 128).
- *feedback:* computers and other devices are able to give immediate feedback even in a classroom with students of varying ability levels.

EfA acknowledged that technology is no panacea and that critical factors must be considered when promoting the effective use of assistive technology, including its ease of use and its applicability to the curriculum. The document specifically accounts for the complex nature of special education students' needs. Despite the benefits of assistive technology, EfA argues that it is "unrealistic to expect one or even several software programs to address all of a student's learning needs" (p. 129). The key is for school systems to identify the role that assistive technology can play in meeting various and all students' needs, and to embed all this within a larger effort to address these needs.

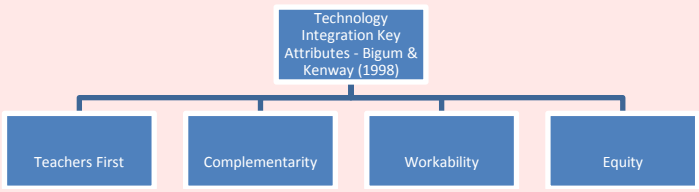
Four Principles of Assistive Technology Integration

This section examines the use of assistive technology in the ten boards that participated in the study of ESGA. In their now classic review of technology and educational change, and in a manner reminiscent of House and McQuillan's (1998) landmark discussion of three perspectives on school reform, Bigum and Kenway (1998) argue that technology and its attributes should be examined from three perspectives: operational, cultural, and critical. The *operational component* includes the nuts and bolts knowledge needed to use and support assistive technology. The *cultural aspect* involves the ability to integrate technology and its use into existing school culture in order to move beyond a sense that technology is simply an additional burden or barrier to the more authentic business of educating students. Last, the *critical perspective* addresses the ability of educators and students to question assumptions about technology and its uses, and to craft ways of adopting and adapting technology that are compatible with the styles and orientations of the individuals using it.

Bigum and Kenway further argue that technology integration should be evaluated in relation to four key dimensions: Teachers First, Complementarity, Workability, and Equity.

Figure 4.2.

Four Principles of Technology integration (Bigum & Kenway, 1998).



Controversially, Bigum and Kenway argue that consideration of educational technology should begin with "Teachers First" - that an evaluation of the personal and professional needs of teachers must precede a cost/benefit analysis for students. The authors' second principle of "complementarity" addresses the idea that technology integration must be based upon a broad understanding that allows technology to connect with student learning in general. Third, Bigum and Kenway argue that technology must possess "workability," in the sense that it should improve the working and learning conditions of students and teachers. Finally, the authors argue that questions of "equity" of access and use are of ultimate importance in assessing the applications of technology in education. There were varying degrees of success in these four areas among the ten boards.

Teachers First

Among the case study boards, the primary way of putting "Teachers First" was through a model of professional development that empowered teachers and administrators to serve as instructional leaders. A "train the trainer" model of professional development was utilized successfully in a number of boards, from teacher to teacher, and school to school.[125]

Boards emphasized a shift in professional development from off-site "central training and then sending them all back with the good word" to "on-site training" and collaboration.[126] In one case, technology resources were used as part of establishing a "literacy

room," where teachers could meet and capitalize on common planning time. Other boards built a platform of "Teacher and Technology Training" and emphasized the use of peer mentors and professional networks to support classroom integration of technology. With the encouragement of school administrators, these models enabled technologically advanced teachers to emerge as instructional leaders.

Special Education Resource Teachers (SERTs) played a central role in taking the lead on how to use assistive technologies in the classroom. Their value was reinforced by shared professional development strategies that included SERTs with regular classroom teachers. In one board, when teachers were trained on PRIME software for supporting literacy and numeracy instruction, classroom teachers and SERTs attended together. SERTs also commonly took on the role of technology leader, providing support to any teacher in need. One teacher described how the SERT was able to offer concrete suggestions for using Kidspiration; a software programme for literacy and numeracy review that emphasizes graphic illustrations of concepts.

At the same time, there were boards that did not put "Teachers First" but treated technology as a set of distinct tools that could be applied where necessary. One board did not invest enough in a coherent professional development plan and did not provide sufficient computer practice time for teachers. This led to frustration among teachers who were "not versed in technology, (were) frequently forgotten in training sessions (and felt they did) not have the expertise to help (students) with problems."[127] As one board official remarked, "what we found was in many places the technology had been there, but the training wasn't there to help the teacher understand how it could be used in their classrooms." In this instance, the use of the assistive technology faded as initial enthusiasm waned and there was no support to revive or sustain it. In the absence of clear rationales and coherent professional development for using assistive and other technologies, some teachers and administrators suspected that, at times, technology was being offered for its own sake or introduced with what Dennis Shirley (2011) describes as "only a thinly-veiled profit motive in mind."

Complementarity

Effective use of assistive technology calls for pedagogical skills to be incorporated into and integrated with specific technology skills as part of the training. Boards addressed this principle of complementarity by providing training for students with disabilities and not just for their teachers. This gave students the skills and experience to use assistive technology to connect with the general curriculum. This provision included not only technical expertise but also social training so that students would feel comfortable bringing their new equipment and expertise to an inclusion-oriented setting.

One board provided an extensive version of this type of training through the establishment of Assistive Technology Learning Centers (ATLC). The ATLCs were classrooms that were dedicated to providing intensive training for students with learning disabilities. They were designed to give these students "greater access to and success with the curriculum" and thereby increase achievement.[128] Students were assigned to an ATLC for up to 8 weeks for focused study of literacy and numeracy, training in general learning capabilities of using assistive technology, and the development of skills and dispositions of self-advocacy. The ATLC programme built students' self-*confidence* by "developing a greater awareness of their learning disability"[129] through learning about famous and accomplished figures such as Albert Einstein, Tom Cruise and Kiera Knightley who had the same learning disabilities as they did. Their self-advocacy skills enabled them to return to regular classrooms as bearers and implementers of their own changes; instructing their teachers on the ways they learned best and requesting accommodations in their teacher's approach to help them succeed. This skill set was invaluable in building students' confidence and in sustaining their learning when they returned to regular education classrooms after their time in the ATLC. A special education consultant and former ATLC teacher described how one student "looked up at me one day and he just said, '[Y]ou know what, I've always wanted to be a doctor. I never thought I could be a doctor because I can't read but now, I think I can be a doctor.'[130]

Although classroom teachers were connected to the work of the learning centers through periodic visits and structured, experiential and embedded professional development, there was great variation in whether students persisted with, and reaped the

benefits from the supports they had learned to use in the centers after they returned to their regular classrooms. "When the whole class feels comfortable in using laptops and assistive technology on a daily basis then it is more likely that students who attended the Center, will feel comfortable in advocating for their use as well."[131] They are "able to participate more fully in the day-to-day curriculum with confidence."[132] Where this was not the case, and the regular classroom teacher used little or no new technology, then as learning disabled students needing special devices, these students "stuck out like a sore thumb" and quickly abandoned the very tools and strategies that could help them. Educators in another board commented on how students in these circumstances felt a "huge stigma" and were "shy about using their equipment because not everybody has equipment."[133] These challenges have led to further initiatives to infuse technology across all classes and the whole curriculum.

An additional challenge with the ATLC model was that it employed selection in the acceptance of students. Only students identified as learning disabled were considered; students receiving services but without this classification were not included. Also, in the opinion of one teacher, the ATLCs were only able to support students who "need the most help" due to the limitation of the size of the program.[134]At the same time, the program also excluded students with disabilities considered to be too severe, including those currently taught in a contained classroom. Candidates were also evaluated and admitted based on levels of parental support and of support from students' home schools. Paradoxically, the ATLCs' limitations on participation were somewhat non-inclusive even though the program was aiming to support classroom inclusion. As one teacher expressed it:

> I understand that certain profiles are going to benefit more from the technology. But at the same time when they're saying, "okay, this child is too LD to benefit so we're just going to leave him with nothing as opposed to a little bit of something." And then there's - it has to be an identified child. They have to be identified LD where there's lots of kids who are just weaker and they really could benefit from using the technology, but they're not even considered.[135]

The ATLCs therefore targeted students on the cusp of academic success in a regular education environment to the exclusion of those with more significant challenges. The programme also excluded students without an official learning disability classification. This focus on student populations capable of producing achievable results has some resonance with the emphasis on "bubble students" who seem to hold the greatest prospect for high returns from investment of human and financial resources that will be discussed in the section on data cultures.

Workability

According to the principle of workability, assistive technology should improve the working conditions of teachers and students alike. In the study schools, assistive technology was indeed generally a tool that added value to the classroom experience of students and teachers. It gave students confidence to demonstrate what they knew; it allowed them to participate more in regular classroom activities; and it provided teachers with another suite of tools to help all their students succeed.

One principal, armed with the knowledge that she was in her last job before retirement, courageously tackled the board to secure the assistive technology resources that would support her teachers in enabling their special education students to succeed. With this technological support, students with learning disabilities developed the confidence to read and write more, and finally started to demonstrate what they could accomplish.[136]

In addition to providing resources that support teaching and learning, the workability of assistive technology is also about supporting broader classroom goals. In some cases, the effort to promote the use of assistive technology among special education students led to these students taking on leadership roles within the classroom. In one board, four students attended class sessions in a technology literacy center, gaining valuable technology skills. At first, when the girls returned, they were reluctant to use their expertise for fear of being singled out. The teacher wisely asked the special education students to lead whole-class training

sessions using the assistive technology - promoting access for the entire class and also supporting the emotional needs of these girls. Other boards had a similar experience that special education students were able to become classroom leaders through technology: "The use of the computer enables students to become independent learners, as well as role models." [137]

In other cases, as we have seen, students were confronted with classroom teachers' reluctance to support the use of assistive technology. One student left the Assistive Technology Literacy Center (ATLC) ready to use his technology skills in the regular classroom only to be met with resistance from the classroom teacher. After parents complained, the administration ultimately transferred responsibility for ongoing support back to special education.

> And so we had the resource teacher doing some withdrawal with that particular student and going into the classroom and removing that responsibility to a certain extent from that classroom teacher and really trying to work with the classroom teacher to move them along and say "what are you doing, I'm going to look at what you're doing and I'm going to change it for this particular student.[138]

In this case, lack of teacher cooperation in supporting the use of assistive technology weakened the inclusion model, did not achieve effective integration with the mainstream curriculum and made the classroom environment less workable or desirable for the student. What felt workable for the classroom teacher in terms of protecting existing practice was not at all workable for the high needs student – and placed that student at risk of stigmatization for being the only one who used assistive technology in the class. This raises questions about the principle of workability – that it is only defensible in relation to teachers provided that it also serves the needs of students.

Equity

Assistive technology is meant to increase and ensure equitable access to the curriculum by providing the supports and enhancements that enable different students to secure this access. The ten boards were largely successful in broadening this access through technology. This was achieved through the development of differentiated instruction that was enabled and enhanced by a variety of assistive technologies that supported the learning needs of students with disabilities. These devices included iPods, tablet computers, laptop computers and carts, mobile devices, Elmo document cameras, and sound projection systems. Software used to support students with disabilities included Dragon Naturally Speaking, Co-writer, Kurzweil, and specialized software to support reading development of increased reading skills. These technologies supported the achievement of special education students, which helped to increase levels of inclusion as well as achievement. The introduction of assistive technology also deepened the conversation about placement of special education students. The issue of whether or not students should be placed in an inclusive classroom environment was replaced by discussions about how to make inclusive placement work. [139] In one board, technology was viewed as "essential" in its capacity to make special education "much more successful."[140] A principal in this board credited the emphasis on technologically assisted differentiated instruction with helping teachers to recognize the strengths of special education students instead of focusing on their deficits.

Several boards provided significant funds for assistive technology that included software that was customized to individual students' needs. Software like Kurzweil and Co-writer, two forms of literacy support software, was helpful to both regular and special education students, promoting an emphasis on equity. Sound systems were also an asset to all students because they gave "everyone a front seat"[141]. One board made Premier Suites assistive technology software for literacy available for all students, at school and at home, enabling all students to start work in one place and continue it in the other. This reduced the potential stigma associated with software confined to students with special educational needs, because technology became an integrated part of home and school life for everyone. [142] The exception to this, of course, was when the homes in question did not have access to technology resources such as computers or broadband capability.

Outcomes and Impact

Assistive technology was a significant and sometimes controversial factor in boards that made significant gains or showed substantial "spikes" in standardized assessment scores in 2007/8 among students with identified learning disabilities. This spike, it will be recalled from Chapter 4, occurred when students had been permitted to use assistive technologies when they took the EQAO test.

This relationship between the introduction of assistive technologies and achievement score gains was imbued with considerable controversy. One member of the ESGA project team felt that "the spike (in EQAO results) was in the end substantially based on the ability to use that technology in conjunction with special education teachers working collaboratively with classroom teachers."[143] The technology was not only being used in conjunction with the ESGA project. "It was from the Literacy and Numeracy Secretariat too, to get more people moving higher on the continuum." Some children, it was felt, benefited because "they didn't have to physically do the letters" and "were excited" when they could "edit and push pieces around" on the writing assignments. Yet the assistive technology seemed to have little or no impact on higher order writing skills or on their application to the EQAO math test that involved "writing about how you solved the problem or your thinking as you were working through it."[144]

In response to questions as to whether assistive technologies in some ways tarnished the authenticity of improvements in children's learning or of gains in measured achievement scores, current and former Ministry officials advanced two arguments. First, they said, assistive technologies were not only legitimate but also long overdue means of supporting and drawing out learning and achievement among particular groups of students. Second, the significant gain or "spike' in learning and achievement that manifested itself in the year that assistive technologies were introduced as part of the EQAO testing process was a culmination of many factors coming together, not a result of that single innovation alone. It was a feature, in this sense, of the complementarity of assistive technology; not of its isolated impact.

One senior Ministry official recalled how he "went to some schools and watched kids who literally could not write but who could dictate." "Well," he continued, "it's really hard to say 'No, don't do that'." "Assistive technology," another official insisted, "was something we drove." "We actually said it's no different than allowing people to wear their glasses to write exams." Giving children better access to the printed word did not, in his view, compromise "the integrity of the test"[145]

Another official who was described by a colleague as "a big fan of assistive technologies," concurred with this view. Assistive technologies, he pointed out, were an integral feature of the *Education for All* document.

> And there was often an ongoing back and forth about what was considered to be a credible use of technology in provincial testing and I think that what it enabled students to do by demonstration of their learning was to open that up a little bit without compromising the integrity of the test. So I don't think (the spike) was any fluke or whatever.[146]

A senior leader in Special Education for the province put the argument like this:

> Assistive technology is a tool that supports effective instruction. And assistive technology undoubtedly has been an integral part of being able to get students with special education needs to a point of fairness that they weren't able to get to before in terms of accessing EQAO assessments. My argument would be that many could've been achieving better than they had been if in fact they had appropriate accommodations to begin with. What assistive technology has enabled is that appropriate level of accommodation to get them to a level playing field. So there's no question in my mind that it has had an impact. It's something that we are promoting from a provincial perspective (and that) has been part of the improved achievement agenda. So we worked with EQAO to continuously improve the access to the assessment for children with special education needs and technology is a critical piece to that.[147]

At the same time that Ministry officials explained and justified the contribution of assistive technology to gains in special education achievement, they also stressed that the sudden surge in achievement

in one year was not reducible to this one influence alone. There were many factors coming together at that time, they said, that were hard to disentangle but that were likely to be collectively responsible for the seemingly sudden and significant gain. There had, they argued, been "a coinciding of various things coming together whether it be a better understanding of technology and EQAO's role and the introduction of *Education for All* and trying to get more consistency there."[148]

> They had better transition supports. They had better technology to support them. They had focuses on good training around IEP's so that those were written up well for the transition. We did a lot of differentiated instruction across the board so it wasn't just targeted to our special education teachers. It was across all of the teachers. So, trying to figure out what contributed what portion to the success is kind of hard. It was part of your good instruction, understanding the learning patterns of your students, what works for them, allowing all the tools including technology to support that - the supports we put in when we saw the spike and then what did we do to sustain those supports.[149]

The fact that it was hard to attribute responsibility for any achievement gains to a single factor or variable – be this assistive technology or something else – was not regarded as a flaw, but as the essence of systems thinking and systems leadership.

> We put a huge emphasis on children with special education needs and effective instruction, on differentiating assessment, separate from technology. We have seen as a result of the Student Success initiative, the Literacy and Numeracy Secretariat initiative changing expectations for all children - all part of this process of which assistive technology becomes an enabler. You won't be able to isolate variables. You have to put it in the context of the school effectiveness planning process, the board effectiveness planning process, aligning all of those with the use of data of which the children with special education needs are a part. If we're doing it well there are so many connectors here.

Educators in the boards also believed that assistive technology had allowed special education students to demonstrate knowledge and expertise in ways they would otherwise have been unable to produce. In one board, a teacher noted that the "the technology we used really helped our scores [EQAO]" because it permitted some students to demonstrate what they knew without being hindered by the test.[150] In this board, use of technology at home was also evident, illustrating the capacity of technology to reduce the impact of time and place on learning. Students were able to bring the learning process home with them by having access to software that would allow for practice outside of school hours.

Assistive technology also allowed more students with special educational needs to participate in EQAO testing rather than being excluded as they had been before. There was a palpable change in students' feelings of self-worth as a result of their participation. "We started to say, 'What if we can scan EQAO?' We had 19 kids last year in EQAO that did it using assistive technology. It seemed to make a huge difference. They were happier about doing it. They felt they could achieve some success because they could actually hear it being read to them. I think it was pretty significant for those kids."[151] This shift in the treatment of special education students from "the other", to being a part of the larger community, represents a change that has not only been immediately impactful but that also stands a chance of being sustainable.

Sustainability

Sustainability in the use of assistive technology concerns whether provision will continue over time and, crucially, whether the technology is integrated into and embedded within the wider nexus of teaching and learning, or regarded as something that is isolated and independent from these essential areas of school life. Sustainability in these senses requires that school systems overcome a number of challenges including termination or reduction of funding, turnover of leadership, and clashes with existing school cultures.

Funding

Several boards among the ten involved in this study valued the changes they had made with respect to introducing and expanding assistive technologies, and they provided continued funding in order to support this work. One board made a specific effort to insure that technology resources and support would outlast the project. However, in two boards, lack of long-term funding for ESGA was detrimental to the sustained success of innovations in assistive technology. One of them set aside significant funds in the first year to invest in assistive technology for special education students but in the following year, professional development for this purpose was suspended and repairs of existing technology were halted. Furthermore, some schools that had been funded in the first phase of ESGA received proportionally fewer resources in the next stages to compensate for their earlier investments. This made it difficult for them to continue both repairs and support for assistive technologies that were more liable (in comparison to other areas for which resources had been targeted) to suffer from degradation due to lack of upkeep over time.

Leadership

Successful integration of technology requires a long-term commitment to professional development, maintenance, and support. In this respect, sustainability of technology integration within ESGA was threatened by leadership turnover. For example, one board hired back a high number of retired administrators who did not feel a part of the broader reform effort and aimed to "try to just keep the boat afloat" – ultimately maintaining the status quo of their schools.[152] These new "old' administrators were typically not the most favourably disposed towards new technologies of any kind. Moreover, when assistive technology was treated in a segregated and separated rather than complementary way, new administrators who inherited programs involving these technologies were more likely to deemphasize their use and downgrade them in terms of budget priority. Assistive technology that is implemented as a part of a larger organizational culture is more likely to withstand the comings and goings of individual school administrators.

Culture

Assistive technologies and their use are affected by teachers' beliefs about technology in general and about the allocation of financial resources to support special education students with digital technology in particular. In one board, some teachers felt that the use of laptops by special education students gave those students an unfair advantage. There was a clear need in this board and others for a larger shift in the culture of teaching to occur before technology could become an effective instructional tool. In another board, teachers were concerned about handing over expensive equipment to students with behavioral disabilities. We have also seen that teachers could sometimes be resistant to special education students or any students using assistive technology in the classroom.

Sustainable adoption and implementation of assistive technologies and embracing of the benefits they provide for students, therefore comes down to questions that are far deeper than ones that concern providing specific training or maintaining specialist support. Sustainability in this domain is, in the end, about an integrated vision of special education that is truly essential for some and good for all, that sees technology as offering benefits for everyone for at least some of the time, and that challenges teachers' beliefs and stretches their practices in relation to classroom innovation, new understandings of achievement and equity, and a willingness to work with and expect success from all kinds of students.

Conclusion

The use of assistive technology to support the needs of special education students has been a revelation and has begun a small revolution in student achievement, so that many students are now able to access, develop and display what they know in ways that have never been possible for them before. But the success of this revolution will not be automatic: a result of newly available hardware and software yielding its effect all by itself. Successful use of assistive

technologies requires the development of a broader school culture that values technology as an asset for all students, not just those with identified disabilities This is not to suggest that technology should replace teaching or be part of all teaching. In teaching, there are times to engage students with technology, times to build on the capacities they already have with it, and times to shelter and protect them from its distractions and excesses.

Returning to Bigum and Kenway's (1998) framework of "teachers first, complementarity, workability, and utility," the ten boards provide evidence that assistive technology has been used successfully when it has been laid upon a foundation of prior teacher experience, built on existing best practices of teachers and students, and placed in the service of the primary learning goals of the school system. Assistive technologies, the results of this study show, can increase participation, enhance inclusion, develop positive identity and self confidence and raise achievement in the community of students with special educational needs. They can also enhance, extend and engage learning among all students.

The benefits of assistive technology are nonetheless threatened in some school and system cultures by the passage of time and decline of commitment in comparison with other priorities, by intermittent approaches to funding, by turnover in school leadership and resulting inconsistencies in leadership support, and by entrenched belief systems about particular approaches to teaching and learning in which assistive technologies or differentiated strategies more generally have little place.

Ultimately, the long-term success of assistive technology depends on the ability of boards to develop a system-wide understanding of assistive technology and its value that does not turn into idolatry or indifference. And it depends on how far boards and schools can create a culture in which assistive technology becomes as embedded in the culture of schools as walking frames and stair-lifts are embedded into the culture of retirement homes, and as sheets of graph paper and sticks of chalk have been embedded in schools in the past. If these cultural conditions are met, where all students will use technologically-assisted learning for some of the time, at different times, and in different ways, then assistive technologies will be able to produce change for students and teachers that is deeply transformative for all of them rather than merely a transitory advantage for a few.

Cross-case theme 3: Professional Culture, Capital and Development

Professional capital

The most important factor in schools that affects the quality of learning is the quality of teaching (Hattie, 2007). The quality of teaching consists of high performance on two dimensions: *commitment* and dedication to the work and its improvement, and *capability* in terms of knowledge and skill to do this work effectively (Day et al, 2007). This in turn depends on developing three kinds of capital. In schools, the first kind of capital is the individual *human capital* of knowledge and qualifications, emotional intelligence and skill in terms of working successfully with young people (Odden, 2011). The second kind of capital is *social capital* (Leana, 2011), where performance improves with the quality of group interactions, levels of trust, and agreed-upon norms, purposes and expectations. Third is the *decisional capital* of the repeated, varied and reflected-upon experience that develops the capability to make professional judgments in situations where practices cannot be standardized and hard evidence on how to proceed is less than clear cut (Schon, 1987).

The improvement of student learning and learning outcomes results from deliberate efforts to develop professional capital in teaching. *Professional development* is designed to improve the *human capital* of knowledge, skill and awareness concerning effective strategies and approaches in pedagogy and assessment. *Professional learning communities* are established in order to strengthen *social capital* through developing a common language, shared norms, consistent direction, collective responsibility and mutual learning that enable teachers to help all their students succeed. *Coaching and mentoring* processes are introduced not only to support teachers in developing new skills, but also to help them improve the *decisional capital* of how to apply their knowledge and skill to different students in different circumstances.

This suite of strategies has great potential for raising teacher quality. But each of the component strategies also has its risks and drawbacks. Professional development can have minimal or even distracting effects on teachers if it is individualized, episodic and not embedded in teachers' actual classroom practice (Guskey & Yoon, 2009). Under weak leadership, professional learning communities can turn into frustratingly unfocused and ill-directed places to share stories and ideas about practice (Dufour, 2007); and under autocratic leadership they can become stilted and contrived means to force people to comply with unwanted external priorities (Hargreaves 2003). Similarly, instead of stretching people in developing their skills and capacities to make more effective judgments over time, coaching and mentoring can become devices to ensure fidelity to standardized practices (Hargreaves & Skelton, 2012).

Professional cultures

Ironically and inescapably, the efforts to implement professional development strategies and professional learning communities are themselves affected by the nature of the professional culture that already exists in the school community. Here, when we use the term professional culture, we are referring not to the professional character or standard of an occupational culture, but to the character of the culture within a particular profession. Professional culture, in this sense, is a descriptive term, not a normative one. However, professional cultures – what teachers believe and expect, and how these teachers interact together – can be more or less desirable depending on their positive or negative impact on teachers' professional capital, and on teachers' commitments to and capabilities concerning improving all students' learning. In the words of Tom Hatch (2002), "it takes capacity to build capacity."

Professional cultures in teaching that tend to have negative effects on student learning and improvement of professional practice can take a number of forms. Cultures of *individualism and isolation* prevent teachers from having access to colleagues' learning or from gaining their professional support (Little 1990; Lortie, 1975). Cultures of *balkanization,* where educators work in separate silos, prevent teachers from taking collective responsibility for students and from improving professional practice across subject departments, grade levels or the

boundaries between special education and classroom teaching (Hargreaves, 1994). The negative consequences of these two kinds of cultures are exacerbated by environments of *high threat and low trust* that undermine confidence and commitment among teachers and direct their attentions towards avoiding punishment rather than achieving excellence (Finnigan, Daly & Che, 2011).

At the same time, *high-trust cultures of collaboration* are associated with positive gains in student achievement and with effectiveness in the implementation of change (DuFour, Du Four, Eaker, & Many; 2010; Kruse & Seashore-Louis, 2009, Bryk & Schneider, 2002). In this respect, for example, professional learning communities are more likely to be productive where collaborative professional cultures and the leadership that fosters them already exist (Datnow, 2011; Wood, 2007). One of the great challenges and conundrums of educational change, therefore, is how to build professional capital, and especially the social capital of professional learning communities, if and where pre-existing social capital is already weak. This was one the challenges faced by *Education for All* and by those responsible for its implementation in ESGA.

According to Hirsch and Emerick (2007, p. 9), a strong professional culture that promotes high student achievement must include an atmosphere of trust, faculty commitment to the idea that all students can learn, communication of a shared vision, and accountability for high performance. To promote what they call a positive school culture, Hirsch and Emerick (2007) suggest three practices. First, teachers must be given time to collaborate with their peers, discuss and observe best practices, and participate in professional development. Second, boards and schools must be characterized by a climate of shared responsibility for continuous improvement. Lastly, data must be continuously examined and analyzed to guide instructional decision-making. Hirsch (2007) also argues that a strong board and school culture is characterized by trust and willingness to discuss previously undiscussable issues through non-defensive examination of teaching and leadership practice in relation to student results. This kind of improved school culture, they claim, is significantly correlated with improved student achievement (Hirsch et al, 2008, p. 4,).

One of the priorities identified by *Education for All* was the development of professional learning communities in order to change professional cultures and promote greater collaboration among teachers. For the authors of *Education for All*, such professional learning communities were not merely settings for teachers to analyze data or look at student work together in meetings. These more precise understandings of what constitutes a professional learning community or PLC are explored in the later theme on data cultures. Rather, in the philosophy of EfA, professional learning communities expressed the entire way in which schools should operate professionally. The term *professional learning* community, the report argued, refers to:

> a way of operating that emphasizes the importance of nurturing and celebrating the work of each individual staff person and of supporting the collective engagement of staff in such activities as the development of a shared vision of schooling and learning, capacity building, problem identification, learning and problem resolution…..Staff have conversations about students, teaching, and learning identifying related issues and problems and debating strategies that could bring about real change in the organization (EFA, 2000, p. 61).

According to EfA, a school operating as a learning community does not just establish teams and analyze achievement data together in relation to a tightly defined achievement focus. It embodies a spirit of family, and a mutual willingness to listen and learn in order to improve the group's individual and collective capacity. In this kind of community, teachers engage in cooperative discussions about professional challenges and shared undertakings, where problems can be solved through reflection and inquiry, where teams negotiate initiatives, where they reach majority support for the implementation of a strategy, and where leaders share responsibility and authority. This idea of professional learning community as the context, character and quality of change is much more broad and inclusive than more specific current usages that are common in US scholarship and practice -- and that regard PLCs as specific strategies for data-driven improvement and implementation to increase tested achievement results.

Policy and strategy

A significant part of the theory in action of EfA and ESGA was, as we pointed out earlier, change by *reculturing* – deliberately working to transform the cultures of the schools to provide better support for teachers, greater capabilities among them, and higher aspirations for all students' learning. In the theory of change by *reculturing,* people's beliefs change before their practices. Barry Finlay, a provincial leader in Special Education, it will be recalled, was a strong believer in building cultures with "common shared beliefs and values," rather than in top-down prescription. In the words of educators in one of the boards, in order to "see the results of student change," you had "to do a lot of teacher change."[153]

ESGA introduced the basic principle that all teachers are teachers of special education. Teachers increasingly came to believe this too.[154] With students being included in the regular classroom, it was important that all teachers would be able to meet all students' needs, including those with special educational needs. One board acknowledged that although teachers had always been passionate about teaching, ESGA meant that they were now committed to meeting all the learner's needs.[155]

The implementation of EfA through ESGA, the development of professional capital, and the reculturing of professional relationships so that they took more collaborative forms were achieved through the following mechanisms as well through the professional learning communities that are discussed in the next section:

- Collective Responsibility,
- Common Language,
- Common Tools
- Professional Development
- Classroom Coaching
- Challenging Conversations

Collective responsibility

The principle of collective responsibility is not only an essential element of an effective collaborative culture. It was, as we saw earlier, a pervasive and intended feature of the architecture of ESGA and the philosophy of EfA that underpinned it. ESGA coordinators promote this principle persistently.

> You need to just send them out as a team (so) that they work together and they could then encourage each other, and when things got frustrating, they had colleagues they could talk to.

Boards themselves understood the importance and impact of collective responsibility on their practice:

> Our school culture has changed a lot over the last two years. Part of that is differentiated instruction and getting to know your students very well and consistency with all our staff on board. The other part is we are working together more as teams and talking about students across classrooms not just our own to ensure our kids are getting what they need."[156]

Collaboration within board offices helped to break down the silos between curriculum and special education departments even though the initiative had only been given to Special Education. One Special Education Superintendent recalled how it was not so lonely now that she had more people to work with.[157] Board superintendents had to sign off on the proposal together. Several of them integrated the two departments altogether.[158] Others developed more coordination and collaboration between the departments.[159] Nevertheless, some felt that stronger collaboration could have occurred had the "EFA documents been given to both special education and the program department."[160]

Collaboration among teachers involved in regular and special education respectively improved in most boards. Teachers and administrators believed that, in most cases, CODE funds allowed teachers time to collaborate in PLCs and take collective responsibility for students. "[CODE] gave us money to be able to get together and work as a team, team building, common planning time."[161] Special Education Resource Teachers (SERTs) worked with classroom teachers to assist them with differentiation. The classroom teachers then became more comfortable taking collective responsibility for special education students. Teachers

saw collective responsibility as an opportunity for "all teachers to have a stake in what's happening with all the kids in the classroom. It's working together as a team"[162] where the classroom teacher never feels they have sole responsibility for any one child.

Instead of working in "silos," SERTs and classroom teachers were now "galvanized" - working in teams to diagnose students' needs, identifying support strategies to help them, and co-teaching together at times.[163] SERTs now had more say in mainstream instructional decision-making. In a benign irony, because classroom teachers now took more responsibility for students with special needs, SERTs were also able to devote more time to students with more severe disabilities. When SERTS were not given enough time to work with teachers and build strong relationships, then Boards struggled much more with establishing collective responsibility.

> there is definitely more withdrawal, 80% withdrawal and 20% in the classroom. There is a lot of collective responsibility and talk about students but not as much collective responsibility and action between special education and classroom teachers for students - definitely more pull-out than push-in.[164]

Collective responsibility between special education and classroom teachers extended beyond the classroom itself into areas such as the Individualized Educational Plan (IEP) process. One SERT said:

> Years ago it was the resource teacher that was responsible. [Today] we spend a lot more time working collaboratively to develop the IEP. (The classroom teacher) would tell me "These are the expectations I'm working on for this term" and we would modify those expectations depending on the needs of that child.[165]

Another remarked:

> My colleagues and I have collaborated on the needs of students, both those on IEPs and not formally identified. Brainstorming new and old ideas has generated plans that have proven effective, providing a sense of accomplishment when seeing student achievement. This creates a bond between us and leaves us excited for the next challenge.[166]

Collective responsibility is not confined to the relationship between special education and classroom teachers. Following commitment in some boards to improving early literacy for all students, for example, kindergarten teachers are no longer so isolated from other colleagues within the school.

> With the student at the center wrapped around with the support of the school team, not just the K-teacher but the entire team, we're fairly far away from the K-teacher feeling isolated. And the school team is wrapped around by the system support.[167]

Other professionals, such as speech and language pathologists (S&LPs), have also been able to provide more direct classroom support. It was not uncommon to hear boards say that they used these professionals in the classroom so students could learn in the least restrictive environment.[168]

The principle of collective responsibility in theory was not always matched by its realization in practice, however. For example, while one Board's Director, said that "as a strategy, as a broad direction, we are becoming a little bit more focused on how we build capacity so that ultimately we are able to do a little less in terms of direct service delivery and a little bit more in terms of shared responsibility and shared decision making and shared ownership"[169]; in practice, shared responsibility between special education and curriculum staff was not yet evident. For example, the Superintendent of Special Education was not introduced to the research team during the site visit and the Curriculum team was not directly involved in the ESGA project.

In a second board that was spread over a large geographical area, the Superintendent

of Special Education spent much of her time in her car, traveling to meet with and assess individual students to whom she felt a passionate dedication to meeting their needs. However, this lack of distributed leadership to other special education staff or to curriculum administrators in other regions of the board who might have undertaken the assessments instead, impeded the development of collective responsibility for all students.[170]

In a third case, a system-wide differentiated instruction coach for ESGA had been appointed in a Board characterized by some distance and even rivalry between the special education and curriculum superintendents. She wept with frustration as she described the near impossibility of someone with lesser authority having to try to achieve the coordination, coherence and collective responsibility on the ground, given that it had not been attained at a higher level in the board office - especially as the number of schools involved in the project was increasing in each successive year.[171]

Overall, though, the spirit of collective responsibility that had been deliberately created was very much alive in many classrooms and boards around the province.

> I find our staff as a whole was drawn together in envisioning student success as a whole school effort and not a single grade teacher's responsibility.[172]

Common language

Another deliberate strategy of reculturing to achieve a stronger and more collaborative approach to improving student learning is the development of common language in a community to forge shared understandings among its members. Common language empowered principals to adapt changes to local needs. It consolidated broad principles and shared understandings that thereby allowed freedom at the school level to interpret implementation strategies in ways that met these principles but also suited local circumstances. One Board asked principals to disseminate some broad principles and promote common language, in ways that permitted some freedom at the school level which teachers appreciated and found engaging.[173]

Common language was established through a number of specific mechanisms. Printed materials and guides expressed the language in writing and enabled principals to guide staff in a direction consistent with their Board's project goals. One board created an illustrated A-Z instructional guide on differentiated instruction strategies. Such documents and associated professional development activities served to reinforce the common language aspect of this change process by regularly and consistently using terms like guided reading, universal design, differentiated instruction and anchor activities.[174]

Shared vocabulary enabled resource teachers and classroom teachers who had been working in professional "silos" to develop shared understandings of what special education terms, such as differentiated instruction and assistive technology meant in practice. A key element in one Board's efforts to implement *ESGA* was to define the language that people used to discuss special education. So, as the IEP process moved from being the responsibility of the SERT to that of the school support team, Board staff had to make sure that people were communicating well.[175]

Collaborative tools

In his discussion of distributed leadership, James Spillane (2009) argues that distributed leadership is established through processes such as developing common purposes and more collaborative patterns of interaction. Such leadership, he says, also depends on tools that foster collaborative work and that make it practically unavoidable. Collaborative tools can include team meetings, moderated marking of students' work, discussion protocols, instructional rounds to undertake teacher evaluations, and so on. Although insufficient by themselves as ways of strengthening professional cultures, the introduction of collaborative tools is one deliberate strategy to achieve reculturing.

Most boards involved in our review of ESGA, engaged teachers in using tools that would promote student learning, including students with special

educational needs. As we have seen, some of these learning tools took the form of digital or assistive technologies such as Smart Boards or computer programs that led teachers to "truly believe that all children can learn,"[176] and that teachers could achieve a "huge change" and "make it possible for [learning disabled students] to learn."[177] These learning technologies proved to be effective where there were also technologies or tools of teacher collaboration such as visits of classroom teachers to the Assistive Technology Centre that placed assistive technologies in the forefront of team discussions and made it possible for teachers to recommend various technologies to each other in order to address their students' complex needs.[178] Where these tools for collaboration were weak or absent, classroom teachers who were unsympathetic to the use of these technologies in regular classrooms were permitted to persist autonomously without them – thereby creating an atmosphere that discouraged special education students from using the very devices that could help them. By contrast, in Board 10, the use of digital technologies by all teachers to enhance their students' learning was regarded as a non-negotiable. The adoption of this common tool and practice was something that teachers were not permitted to refuse. One teacher needed to be convinced by a SERT to use a new sound system, on the grounds that it was a tool for realizing a core value of: "everyone having a front seat."[179] This innovation was presented as an example of Universal Design (UDL) principles that met the needs of certain identified students (such as those with Fetal Alcohol Syndrome and other sensory issues) and also non-identified students (such as those with regular ear fluid or infection issues in winter) students.

Many of the tools or technologies that promoted common practices and collaborative discussions concerning them were not digital in nature but they were just as effective.

- *Anchor charts.* These home-made posters helped to create consistency among teachers by reminding them what they had agreed with their colleagues would be the principal concepts for a given unit. They also reminded students of the keystone skills they were expected to master during a given unit. These anchor charts were hung in conspicuous places in more classrooms than in the years preceding ESGA (Further details are provided in *Cross-case theme 1: Curriculum and pedagogy*).

- *Individual Education Plans (IEPs)* were converted from documents and meetings that stated formal responsibilities for program provision and assistance, which had previously fallen to the special education resource teacher, to processes where the "classroom teacher is ultimately responsible for the program" or plan written for each child with special needs.[180] One Board, for example, uses a tiered model of support where nearly any student – not just ones who have been formally identified - can have an IEP written for them to help educators plan for their unique learning needs. Teachers' roles are described as working with *all* students, sharing responsibility and instruction. One SERT described her role as working with small groups of students in need of additional assistance, "not just the kids with an IEP." She felt she could "work with all the kids in the classroom." Several SERTs and SATs now collaborated with their curriculum colleagues around IEP planning and execution. As a result, classroom teachers are more familiar with the plans, their contents, and the students they are meant to serve, and the frequency of withdrawal has declined as a result so that " the vast majority of those special ed kids can just be served in a regular classroom with a classroom teacher working with a special ed teacher making sure that the program is modified to meet their needs."[181]

- *Magazine menus* of instructional strategies provided all of a school's or Board's teachers with a flippable chart through which they could share the same repertoire of identically named instructional strategies that were now, literally, at their fingertips. One school, for example, had an annotated list of 26 strategies for differentiated instruction labeled from A-Z as a resource for all teachers that they could draw upon and discuss at any time.[182]

- *Data walls* pushed teachers to work collaboratively to target struggling students and strategically address learning gaps. Derived from the principles of World Class Manufacturing, data-driven intervention seeks to track the performance of every student. Through frequent cycles of evaluation of every student, data-driven interventions and data walls identify in real time where the weaknesses and shortcomings are; who is ahead and who is behind. Children coloured in green are those who are progressing as or beyond what is expected; those tagged as amber are deemed to be at risk; and those who are falling behind are labeled as reds. Individually and together, teachers can review these publicly and transparently displayed data walls of tested achievement among and with their students to make just-in-time interventions that will rectify underperformance with particular students, categories of students (e.g., boys, or children with behavioral disabilities, etc.), or classes. Real-time data, talking about data and acting on data are, in this view, the granular ingredients of collective responsibility for relentless improvement – achieving improvement one item at a time. These data walls promoted collaborative conversations about student achievement and focused on moving students along the continuum of progress. One board described the data walls as being a visual representation of student progress, which was a centerpiece in team meetings.[183]

Common language and collaborative tools are useful technical devices to promote collaborative action and collective responsibility. But they do not guarantee that these moral and practice-based ends of reculturing will be either pervasive or effective. When anchor charts turn into mandated word walls, a tool to support practice can become an oppressive constraint that impedes the capacity to perform that practice with professional judgment and discretion (Hargreaves & Fullan, 2012). Menus of classroom strategies can prompt new practice, but if they are implemented without deep understanding of children's cognition or collaborative reflection about the best occasions for their use, the menus can turn into gimmicky bags of tricks that lead to poorer rather than more effective practice. And data walls can become distractions rather than forms of support if they concentrate only on standardized test score data, on students who are near the passing mark rather than on those far away from it whose need to make progress might be even greater, or solely on failing or at-risk students (the ambers and the reds) rather than also on the greens whose success can deepen understandings of the factors that lead to achievement, and also spur motivation among teachers to secure even greater success. Using tools well and using them for the right reasons, requires deeper attention to the purposes, relationships and interactions of schools and boards – to the core elements of what defines them as a culture. One of the places the quality of these interactions is essential, is professional development.

Professional development

In the view of Frank Kelly, the Executive Director of the province's board directors association, the government's *Education for All* document had "very sparse" recommendations for professional development. But senior administrative staff responsible for the origins and implementation of EfA and ESGA knew which strategies of professional development are more or less effective. Increased professional development does not always lead to improved student achievement – especially when it is undertaken individually and away from the core of people's practice. Deputy Minister Ben Levin therefore stipulated at the outset that there would be "no professional development which is huge gatherings in halls!" "I don't believe in it. I don't think it works and I want you to do something different," he said. Frank Kelly agreed with Levin about professional development and support. Except when superintendents were brought together, "we never had large groups," he said. Instead, resources were used to "free up" classrooms so teachers could "go down the hall and show the other people" what they were doing in a "one on one" manner. Professional achievements and good practice

had to be shared. "When we gave them their project, we said, 'We want you to be able to go down a hall and tell the next teacher and the next one. You have to tell the world'." When Boards applied for their resources, the steering committee

> did screen for things that were just not going to be - total awareness projects of having mountains of people in for a workshop and send them home and forget about it. So there was always a component built in, if they were doing a workshop you went away and did something and you came back and there was coaching available in the schools and those kinds of things. [184]

Much of the professional development in ESGA did provide more meaningful engagement for teachers than "ballroom style" PD. In Board 2, however, the first year of ESGA took the form of "spray and pray" training for up to 80 teachers at a time to introduce the underlying principles of *EfA* and begin to develop shared awareness and understandings of, as well as common language concerning, pedagogical concepts like Differentiated Instruction, Shared Reading, and Guided Instruction. In years 2 and 3, though, the professional development focus shifted to small group, job-embedded workshop learning. Clusters of "willing" teachers and administrators took away lessons, tried them out, and reflected on them together. These "willing" teachers were the "early adopters" of change. Year 3 then brought in more teachers who experimented with and reflected together on new teaching strategies.

Classroom coaching

In the end, as much professional development as possible was moved to the school and classroom level through a range of job-embedded processes that came to be known as "coaching at the elbow" followed by "gradual release." Consultants provided ongoing, classroom-level support for teachers. One special education superintendent felt that the advantage of this approach was not only that it was ongoing and embedded, but also that it established credibility for consultants and coaches as "someone who's going to collaborate and work with you" rather than a relationship that was based on pressure or hierarchy.[185] A school administrator in the same board remarked that consultants played similar roles for principals in "showing them all the skills that they needed to have to help their teachers." The response in this board to "coaching at the elbow" was "very positive because it embedded somebody in the classroom, helped them moved one step forward, [and] try a couple of new things through that process." Teachers "really felt it took them into account and took them where they were with their practice."

In another Board, "the job-embedded PD was from our speech and language pathologist who came in to work with our teachers around oral language and developing oral language centers in the classroom." This "at the elbow" support helped teachers develop the skills to improve literacy. One S&LP found this strategy to be extremely helpful for teachers:

> So it was about providing supports for all and it gave us the opportunity to go into classes and work with classroom teachers by doing modeling - to prepare a lesson together with the teachers that we could brainstorm together so that the strategies can then become more real and more authentic and more linked to the classroom.[186]

Another Board focused its professional development on consistent and systematic use of assessment tools to inform and improve instruction. Beginning with the in-class support of "coaching at the elbow," as teachers became more comfortable with the techniques, there was a "gradual release" of support by literacy specialists and SERTs so that teachers could eventually and sustainably continue without them. This was designed to create more "modeled, shared, guided, and independent practice."[187]

In Board 7, coaching at the elbow was applied through the use of demonstration classrooms where lead teachers would demonstrate a lesson for other educators, and keep in contact as they tried out the new strategies in their own classrooms.

While coaching at the elbow was widespread, the ways that boards operationalized it clearly varied.

The on-the-ground architecture of ESGA created varied and distributed leadership roles for teachers in the form of differentiated coaches and consultants, demonstration classroom teachers and area resource mentors. In addition, it redefined existing roles for SERTs who now played more prominent roles that sometimes included teaching mainstream classes.

Notwithstanding all this support that aligned with what is generally known about effective professional development practice, and that was clearly advocated in *Education for All,* this strategy still raised concerns in some cases. One coach had to start her work in a climate where some teachers regarded the very idea of coaches as "spies." This coach's biggest challenge was to reassure colleagues that she was there to "support" and not evaluate them. [188] To remedy this, the board did not mandate that all teachers watch or co-teach with the DI coaches, but encouraged teachers to participate when ready. This strategy of flexible adaptation proved to be an effective way of dealing with skepticism and resistance. One senior SERT recalled how as an "old dog," she was now learning tricks from the DI coach, whom she had mentored seven years earlier.[189]

At its best, coaching at the elbow not only provided more effective technical support in a particular instructional area for novice educators, who were each paired off with an experienced mentor. It also strengthened professional collaboration and increased inclusion more widely. "There's no more withdrawal where you sit in the resource room and the teacher sends down their struggling five kids. The learning resource teacher spends 50% of his/her day in the classroom."[190] This wider culture of collaboration was an important context for and outcome of these more specific measures to increase collective responsibility, create collaborative tools and common language, and establish effective job-embedded professional development strategies and coaching relationships.

Challenging conversations

A key part of the idea for strengthening collaboration and commitment to better outcomes was to infuse more challenging or difficult conversations into meetings and discussions about students and learning (Abrams, 2009; Stone, Patton, Heen & Fisher, 2010)

Before ESGA, many teachers typically did not share their practices or conduct observations or feedback about each other's teaching. Yet in order for change to be successful, teachers must be open to critical feedback about their pedagogy (Hargreaves, 2009). These challenging conversations or opportunities to be critical friends occurred through peer classroom observations. Leaders provided time and a safe environment for teachers to discuss challenges they were experiencing and the opportunity for teachers and leaders to help with solutions. Leaders also modeled these practices for colleagues, collaborated in planning, and observed and coached colleagues in a non-threatening manner.

The survey evidence did not however suggest this was one of the areas where their collegial practice had changed the most. When they were asked to identify a sample of activities that they were "more likely to engage in with colleagues" teachers were more likely to identify "examine student work" and "discuss student data and achievement results" than "co-create lessons," "co-plan assignments" or "observe a peer teaching" – all activities that were more closely connected to immediate practice. There were some exceptions, though, where professional collaboration did take on more challenging dimensions of an intentional nature.

In educational change, it is sometimes said that human beings, like physical objects, usually prefer to be at rest (or in a state of uniform motion): to remain just as they are. In line with the laws of physics, some kind of force will therefore be required to move them. What kind of force should it be, and who should exert it? Should teachers be pushed, pulled, dragged, or drawn into change? Is a great shove needed to move them forward and keep doing so, or will just a well-placed nudge be enough to get them moving?

If pushing or pressure is excessive and amounts to shoving people, it can border on bullying and abuse. But while pulling alone may draw many towards a change, the deepest skeptics or their most anxious colleagues may still be resistant. An intermediate strategy is to "nudge" people in one direction or another, not by force or mandate, but by providing time, developing common language and tools, and

setting higher expectations for the depth of discussion about student learning (Thaler & Sunstein, 2009).

Challenging conversations push people to think about their practice, their purposes and their effectiveness as a prelude to moving that practice in a more productive direction. There is definitely some pushing going on here, but what kind is it, and when is it too much?

One school board that has 24 elementary and secondary schools with a 40% population of First Nations (aboriginal) students in a far-flung territory the size of France initially used its resources for supply teacher coverage to allow both classroom and special education teachers to attend PLC meetings together. The reflective aspects of PLCs in this board were designed so that teachers might increase their awareness that the significant language challenges of their aboriginal students were less a matter of inherent and insurmountable cognitive impairment, than a developmental and experiential issue that could be addressed collaboratively as well as pedagogically.

Board administrators *pulled* teachers into this discussion by having flexible formats and focal points in different schools and by funding ample release time to break down the separation between special education and curriculum staff: "sharing strategies, supporting each other, talking about at-risk kids, talking about special needs." They also *pushed* frank discussion about teaching strategies and about expectations for aboriginal students' learning.

> There was a lot more self-direction in the PLCs coming from teachers. It was more "Let's make sure we're focused and make sure we're doing something and our school energies are all being harnessed and directed in unison rather than us all paddling our own little canoes in different directions.

As teachers reflected on their students' performance data, collaborated, and discussed students' needs, the task of improving students' writing no longer mainly meant reviewing student performance on practice prompts or drills related to the high stakes standardized tests. Rather, as the PLC process "unfolded, we began to see more and more connection between early language development as oral language development [and] reading development, writing development, and overall literacy development." Staff became increasingly aware that many low-SES aboriginal students were entering school with little existing language capacity whatsoever. During walkthroughs, some staff made demonstrations of early childhood classrooms where groups of students were using a variety of tools such as computers, board games, and manipulatives to build literacy skills. Younger students now had their needs brought to the fore, and teachers began to see the connection to measured literacy performance in later grades.

These PLCs could sometimes become quite confrontational, but this was often in a productive way. It was:

> Very confrontational for one teacher - not in a negative way, but they definitely felt that they needed to be able to defend the way that they wanted to mark and grade student work. And she walked away from the table understanding that she wasn't using a criterion-based assessment even though she had developed a rubric but [the grade was] based on the effort that they were working on. That was her peers at the table. She didn't go away upset. She went away saying, "I need to rethink this."

Facilitating the challenging work that enabled teachers to have productive and frank conversations took time. In the words of one teacher:

> Pushing people outside of their comfort zone, as difficult as it is, it truly is successful because in time we were able to see changes in the content of discussion and the quality of the discussions that were happening around the table, but it took a lot of time.

Teachers said they were more frequently "listening to colleagues and watching what they're doing," and described how they were "more willing" to try colleagues' ideas since they had built "relationships." One said, "if we're going to be an effective school we need those relationships." As a result of this kind of growth of a professionally collaborative culture, a teacher in another board said, "as professionals, we [now] feel it's OK to walk into someone else's room and tell them you goofed about something, or ask for help. And in the past you wouldn't have done that."[191]

There were definitely pressures in bringing about these changes through "frank" conversations, but these were by no means always seen as positive or productive. The special education coordinator for the board talked about this tension:

> Teachers definitely are feeling that they're under more scrutiny, more pressure from senior administration. Principals regularly are in classrooms. They're doing walkthroughs. They're looking for specific things. They want to see evidence that guided reading is happening. They want to see evidence of all of the initiatives that the board is working on. There is a lot of pressure on teachers to make changes and they certainly are feeling that pressure.

When this superintendent met with the research team and all his fellow board superintendents from elsewhere, he spoke movingly about how valuable the case study reports had been to him and his board. "I thought I was having challenging conversations with my staff," he said, to open up practice and raise expectations. "But since I read this report," he continued, "I realize that what I intended to be challenging conversations have sometimes been experienced as oppressive conversations." That is just the perception of some of my staff," he went on, "but perception is reality and I have to learn from this and take it very seriously."

ESGA therefore provides strong insights into the benefits of creating collaborative conversations that are also challenging, and also into the risks of pushing those conversations too far –using the justification for an occasional push as a mandate for a bureaucratic shove. It is a testament to the reflective character of Ontario's leaders that they are persistently able to pull back from this bureaucratic brink.

Conclusion

ESGA provides an excellent example of the effort to secure change through reculturing of relationships and practices on a significant scale in a coherent way. It has used structures and protocols to nudge and even push some of these new relationships into being by deploying common classroom tools like word walls and anchor charts; collaborative tools for staff reflection like data walls; new purposes and protocols for old procedures such as IEP meetings; structural mergers of some special education and curriculum departments; and the movement of the centre of gravity of professional development away from ballrooms and halls to job-embedded kinds of in-class advice and instruction.

Through all these measures, the inspirational guidance of EfA, and the school board administrators who adopted its language and moral purpose, teachers took collective responsibility for higher expectations and stronger outcomes for all students; and they assumed shared responsibility across grade-based and special education/classroom divides that had previously separated them.

More embedded approaches to professional development drew on and increased the professional capital of teachers from within the system, instead of expending large amounts of resources on bringing in external speakers and trainers who so easily move on and leave little signs of any footprint behind them. Instead of leaders constantly pushing and driving change from the top, a profusion of teacher leadership positions as instructional coaches, consultants, resource mentors and so on, provides in-class support that leads to bigger gains in commitment and effectiveness, and to ways of connecting the many initiatives across the schools. Teachers themselves lead and drive rather than faithfully following prescriptions and directives that have been handed down from elsewhere.

This systemic effort to bring about change by reculturing that transformed how teachers worked together in professional cultures that supported inclusion of all students, departs dramatically from many other reform models that dominate the educational landscape of today. These other models are driven by top-down intervention, curriculum prescription, choice and competition, fidelity to external requirements and other strategies of compliance and control such as putting more and more time and emphasis on performance evaluation. (Hargreaves & Shirley, 2009).

In ESGA, change by reculturing is inspired by common beliefs that are communicated constantly through the common language of the project and the system, and expressed in the common tools that teachers use to realize those beliefs. Structures, tools and protocols nudge teachers in the same direction, so all the canoes are paddling the same way, but not by excessive pressure, or force, or paper alignment.

Resources are not retained in the centre and expended on legions of external trainers or newly hired office staff. Leadership is distributed towards and across the schools – releasing time, enabling collaboration, and providing embedded coaching support. Teachers lead. Peers drive each other. Learning pollinates across the schools and good practice spreads.

This is not to say that ESGA's reculturing strategy did not encounter obstacles. Time was always scarce, as it is in all educational reforms, but using educational assistants and special education resource roles more creatively released some of that time, as did the prudent use of substitute teachers. Geography could create logistical problems in some of the larger boards and these were greater where board leaders were unable to let go of their more traditional roles in performing one function - like identifying children with special educational needs across the board - rather than sharing multiple functions with other board personnel so that the area covered by any of them was not too great. Some boards had high principal and teacher turnover due to competition from neighboring boards and internal leadership problems in the board itself. This created instability within the project and unsustainability in its impact. Relationships were harder to build, trust more difficult to establish, and in these cases, as other research has shown, it is the wider board culture and the culture of relationships between contiguous boards that has to be addressed rather than the implementation of the particular ESGA project. And in one board, unresolved high-level rivalries between two senior superintendents made the work of the person they appointed to integrate their two areas of responsibilities unachievable.

In our Board survey, educators scored 4 or more in their rating of the statement that "the beliefs and principles stated in the *Education for All* document largely align with the professional philosophies of the colleagues in my school." Beliefs really did precede practice as the engine of change. And when asked about the impact of ESGA on their students and their inclusion, teachers scored 3.5 or higher in stating that children are now typically mainstreamed into regular classrooms. In a world that is obsessed with change by restructuring, and of compelling educators to change their practice as a precondition of shifting their beliefs, ESGA offers an alternative of a profound systemic change strategy that was driven by reculturing of professional responsibility, capital, and community; and by nudging rather than shoving people into new language, new roles and more challenging conversations as ways to achieve their collective ends The following theme explores how many of these issues play out in the specific area of professional learning communities that are striving to make increasing use of student achievement data as a basis for making professional decisions and interventions that will improve learning and achievement..

Cross-case theme 4: Cultures of Data Use

Introduction

In education, terms like "evidence-informed," "data-driven," or their permutations are used to characterize decision-making processes, at various levels of the system, in which educators systematically collect and analyze "various types of data, including input, process, outcome and satisfaction data, to guide a range of decisions." (Marsh, Pane, & Hamilton, 2006: 1). The rationale is that use of data will help educators to select more effective strategies and make better decisions about resource allocations and, ultimately, "improve the success of students and schools." (Marsh, Pane, & Hamilton, 2006: 1). Data-driven decision-making is not a new phenomenon and, in Ontario, it has been at the core of many major school improvement strategies (Campbell & Levin, 2009). The province has spent considerable time and resources developing a central data system – Ontario School Information System or ONSIS – to inform educational research and policy questions at all levels of the system. However, the pace of development and the actual utilization of comparable data systems in each of the boards in this study varied considerably.

The growth in educational assessment and data-driven decision-making has occurred in part because test-based accountability requires the tracking of student progress toward the attainment of performance goals. Recent initiatives have placed particular emphasis on assessment practices and data use in educational decision-making. When Ontario established the Education Quality and Accountability Office (EQAO) in 1996, its primary responsibility was the administration of assessments in reading, writing, and mathematics for grades 3, 6, 9, and 10. The purpose of these assessments was to collect evidence to determine the effectiveness of the education system in Ontario. Over the years, it had become increasingly clear that regular education students consistently outperformed their counterparts who had been identified as having special needs. The *Essential for Some, Good for All* (ESGA) initiative, which aligned with the principles enunciated in *Education for All* (EfA), was intended to improve the educational experiences and outcomes of learners with special needs and, in turn, to close the achievement gaps that had been identified through EQAO.

With considerable freedom in the design and implementation of their ESGA reforms, boards experimented with a range of instructional strategies and technologies. This cross-case analysis examines a related strategy: the use of data to inform decisions about instructional improvements and interventions for special needs and other at-risk learners. Assessment and the collection of evidence were not typically the primary strategy of the boards in this study, but in one way or another, they were part of every board's ESGA initiatives. With a few exceptions, boards opted for multiple forms of evidence, including assessments that were selected at least partly based on identified students' needs such as literacy and early language ability.

Teachers have historically used data to inform their teaching, at least informally. However, more recently, there has been a push to use various types of data – or more broadly, evidence – to formally determine students' academic needs, develop individual, small-group, or whole-class lessons that address these needs, and undertake reassessments to determine whether and to what extent students have achieved mastery. Evidence may take the form of observations of students' classroom behaviours, teacher-made classroom assignments or assessments, or formalized/standardized assessments of a formative, interim, or diagnostic nature. This theme examines commonalities as well as some variations among boards' evidence-informed instructional strategies and the cultures of evidence they built during the period of ESGA. It discusses the assessment and data collection strategies used by the ten boards, examines how these evidence-informed strategies influenced, and were influenced by, other ESGA initiatives, and identifies some of the successes and challenges boards experienced in developing their cultures of evidence.

Content and form of data cultures

School culture plays an integral part in the adoption of evidence-informed practices. Culture in schools can be characterized by "a set of beliefs, values,

and assumptions that participants share. While the beliefs are often tacit and regarded as self-evident by members of the culture they nevertheless provide a powerful foundation for members' understanding of the way they and the organization operate." (Page, 1987, p. 82) Hargreaves (1996) distinguishes between the *content* and *form* of culture. Content includes "the substantive attitudes, beliefs, values and ways of life that members of an organization … hold in common." (p. 11) Form is "the patterns of relationship and forms of association among members of the culture." (p. 11). This distinction between the *content* and the *form* of culture is employed as a framework for this analysis of changes in cultures of data use - especially in relation to the professional cultures of schools – the cultures of interaction, relationship and belief among the adult professionals in the school community.

The *cultural content* of ESGA reforms was aligned with one or more of the seven central beliefs delineated in EfA. The first belief in EfA was that all students can succeed in demonstrating competency in literacy and numeracy. For many schools, subscribing to this belief represented a shift in the content of the culture with respect to the education of special needs students. From believing that students with special needs diverged from a classroom norm or stood outside conventional parameters of learning and learners in schools, and therefore needed self-contained placements or periodic withdrawals for separate treatment and intervention, Ontario educators moved towards subscribing to the belief that students with formally identified needs were simply part of student diversity. Therefore, they could and should be included in regular classrooms wherever possible and appropriate, within a climate of learning and pedagogy that was responsive to the needs of all learners, including but not restricted to those with identified needs. Indeed, this was a principal tenet of Education for All:

> In any given classroom, students may demonstrate an extensive range of learning needs. Some may, for instance, have difficulties with reading, writing, or mathematics. Others may be new to our language and culture, or speak another language with more fluency than the language of the classroom. Still others may read complex books or understand advanced mathematical concepts. Some may appear to lack motivation or be underachievers relative to their abilities. Whatever the reason for the student's needs, teachers must be prepared to respond effectively and ensure that each student is learning to his or her potential. (p.3)

Changes in how evidence was used to guide decisions about instruction and intervention in relation to students with special educational needs, and indeed students in general, were largely derived from the content of the messages that leaders relayed to school-level staff and from the examples they set. This change in the content of the culture and its belief system impacted the form of professional interactions and relationships among educators in schools and school boards. As students were mainstreamed, special education resource teachers, speech and language pathologists, and other professionals spent more time in regular classrooms and developed new relationships with classroom teachers and with each other.

Education for All suggested various strategies for educating all students, with recommendations for the types of approaches and tools teachers could draw on in supporting the inclusion and education of special needs students. In addition to the principles and practices of Universal Design for Learning and differentiated instruction that were discussed in the earlier section of this report on curriculum and pedagogy, EfA also proposed that teachers could use more precise assessment strategies to identify and track each student's patterns of learning, develop learning profiles for those students, and adjust teachers' use of instructional strategies. Accordingly, EfA devoted considerable attention to how to administer accurate, universally-designed assessments within a continuous learning-teaching process that was organized into periodic cycles of implementation and review.

One of the key strategies for improving the use of evidence in decision making is the establishment of an evidence-informed culture which includes both a commitment to continuous improvement and a genuine focus on student learning (Datnow, Park, & Wohlstetter, 2007). As with the broader professional culture in schools and boards, evidence-informed cultures also possess content and form. The *content* concerns the substance of discussions that occur in relation to students' learning and achievement, and the kinds of

instructional interventions that are introduced in response. The *forms* of evidence-informed data cultures consist of the artifacts and interactions through which data are collected, organized and expressed; the pictures, charts, or spreadsheets through which they are represented; and the conversations that occur as a result, whether they are inclusive or hierarchical, fast or slow, authentic or contrived.

In recent years, considerable attention has been devoted to the topic of evidence-informed instruction. Some authors advocate for the development of cultures of evidence and judgment versus implementing a data-driven initiative in a more mechanistic way that ignores or overrides teachers' professional judgments (Hargreaves and Johnson, 2006). However, few writers have provided a clear definition of evidence-informed or data-driven practice. In this section, we define evidence-informed cultures as ones that are characterized by:

- beliefs and values regarding the relevance and utility of certain forms of evidence;
- ways that evidence plays a role in decisions about pedagogy (and other educational decisions); and
- commitment to a process of evidence-informed continuous improvement.

This analysis distinguishes between evidence-informed (Hargreaves & Johnson, 2006) and data-driven decision-making. The distinctions between the two terms are not trivial and refer to differences in the range of data or evidence that is typically included in the decision-making process, as well as to how mechanistically or thoughtfully educators make judgments and inferences as they examine the data and evidence before them (Hargreaves & Shirley, 2009).

Types of assessments and evidence

Among the ten boards in this study, the most common instructional strategies for meeting students' needs were differentiated instruction, universal design for learning, and assistive technology. However, nearly all the boards manifested some form of data use for informing what decisions would be made about instructional approaches in general and in relation to individual students in particular. Indeed, for DI to be successful there must be a systematic process of collecting evidence of student learning to determine student needs and to plan instruction, as well as on-going assessment to inform next steps in instruction (Tomlinson, 2001; Hall, 2002).

Evidence-informed instruction is part of a broader process of evidence-informed decision-making. Here, assessment data are one type of evidence that teachers employ. Across the ten boards, evidence that was used to inform instructional decisions included formal and informal teacher observations, classroom assessments, student work, previous results on EQAO assessments, and proxies for the EQAO outcomes for current students. Among all these possibilities, assessment data were by far the most frequently cited sources of evidence that were used to identify and address student needs.

Site visits in half the boards revealed explicit use of EQAO data in relation to at-risk students.[192] In some cases, EQAO scores were examined in the aggregate to retrospectively identify and address achievement gaps.[193] In other instances, the focus was on "bubble students" who scored between 2.7 and 2.9 on pre-EQAO assessments – just below the provincially determined standard of proficiency of 3.0. The EQAOs are summative, after-the-fact assessments administered in only a few grades at the end of the school year. As such, their utility in identifying specific student needs in a timely manner, especially in relation to students who have not yet been tested is limited. In open-ended survey responses, some teachers noted that EQAO could be useful for giving them a starting point "to review what the strengths and weaknesses are from the previous year's results."[194] For example, prior year results could give them a broad idea of where to focus or to identify key areas of learning that may have been missed."[195] But in general, the use of EQAO data in decision-making concerning instruction and intervention was a controversial and contested issue in a number of the boards. We will return to this point later in a discussion of the relative merits of threshold versus growth-based assessments as they affect the implementation of ESGA and of educational reform in general.

Because of the limitations of EQAO data, all the boards also employed various types of diagnostic, interim, and formative assessments that provided information on students' current needs.[2] Some of these were aligned to the EQAOs and to various instructional resources in Ontario. For example, the Ontario Writing Assessments aligned well with the writing portion of the EQAO.[196] These assessments typically provided teachers with data that were closer to real-time issues of teaching and learning and they were more precisely descriptive of gaps in students' understanding at the level of skills or sub-skills in a way that made it possible to make changes in instruction that were specific and immediate. In several cases, teachers were also encouraged to combine assessment data with evidence of student work, their own observations and knowledge of their students' past performance.[197]

Frequent diagnostic assessments can aid teachers in monitoring students' academic needs and progress, whereas periodic interim assessments can inform their teaching and instruction (Goertz, 2011), as well as track students' progress towards meeting performance standards. In this respect, many boards employed multiple measures of students' performance to build comprehensive and useful profiles of students' academic strengths and areas of need. Multiple measures also enabled educators to customize the timeliness of the assessment or the level at which the curriculum standards were measured. Teachers generally agreed that, since ESGA, the progress of students with special needs was being monitored through a variety of assessment and evaluation methods[198].

> The staff works as a team and seems to share responsibility for the growth of all students within their division. We use DRA tests in my division (primary) to specifically target needs of specific students and we use the DRA to help our students set personal reading goals that are measurable and thus, more tangible for them. There is more of a sense of shared responsibility between teachers and their students, in my opinion.[199]

Strong, evidence-informed school systems don't just collect data, they collect the *right* data to "inform the work of teachers and administrators." (Datnow, Park, & Wohlstetter, 2007, p. 6) In our research, four of the ten boards displayed evidence that they were using clear strategies to select the right kind of assessment and collect the right kind of data. These strategies were typically informed by the needs of the identified at-risk population. In one board, the focus of the ESGA initiative was literacy in the early grades, particularly among those students identified as being at-risk of weak academic growth because of limited English literacy/fluency.[200] Obtaining valid and reliable assessment results for students with low levels of literacy can be challenging. Teachers therefore began by setting entry-level targets for various components of early literacy. Diagnostic assessments were chosen to provide teachers with information on students' status on these competencies. Because of the difficulty of assessing the targeted student population with existing instruments, new assessment strategies were developed such as an observational inventory of key pre-literacy skills. One of the board's teachers summarized how different types of data were collected for different purposes. "If you're really clear about what we're collecting that data for, and if it's system data, then we use it for a different purpose than interacting with a child on an everyday basis."[201]

In one board, which focused its ESGA project on early and middle grades, students who were identified as showing limited growth were the target of intervention efforts.[202] In the first year of ESGA, the board used diagnostic assessments in reading (DRA) to identify students' needs and to differentiate instruction accordingly. In the second year, the board narrowed the selection of assessment instruments and processes; selecting ones that were most likely to provide useful information for determining appropriate interventions for at-risk students. In many cases, this meant augmenting the DRA with the WBTT (Web Base Teaching Tool) and Carmel Crevola's Screening of Print Concepts.

[2] Some of the most commonly referenced assessments were the Comprehensive Attitudes Strategies Interests (CASI) diagnostic test of reading comprehension, PM Benchmark reading assessments, the Ontario Writing Assessment (OWA), Dynamic Indicators of Basic Early Literacy Skills (DIBELS), the Quick Comprehension Assessment (QCA) and Oral Running Records (ORA), and the Diagnostic Reading Assessment (DRA).

A third board used multiple instruments – EQAI, CASI, PM Benchmarks, DIBELS, as well as teacher observations – as part of the process of individualizing instruction.[203] As a key feature of its ESGA initiative, the board instituted a cyclical process of assessment and instruction that began with administering the assessment (in literacy). Coupled with evidence from classroom observations, teachers then used the resulting data to identify student needs and develop individual and class learning profiles. The profiles were used by teachers to deliver appropriate, just-in-time instructional interventions. These cycles of assessment and instruction were repeated every 8 to 9 weeks and often involved the cooperation of classroom and special education teachers.

Given the flexibility accorded to the boards, as well as the wide range of instruments available, it is not surprising that there was considerable variation in the number and types of assessments that were used to inform instruction. In some cases, that flexibility and variability extended to the school level. What is noteworthy is that in about half of the boards, the steering committees, in collaboration with other professionals, engaged in a process of selecting instruments that was sensitive to the characteristics of the target populations and responsive to the pedagogical capacities of the teachers. In general, there was clear evidence of progress towards the goal of generating and using the range of evidence necessary to make differentiated instruction an effective strategy.

Changing professional cultures

Just as the range and uses of types of evidence and assessments varied, so too did the extent to which, and ways in which, these tools and their use were integrated into the wider professional cultures of the schools and their boards. Boards ranged from generally unsystematic and idiosyncratic or weak practices of using evidence to stronger ones that were more systematic and consistent. There was also variation in how the uses of evidence contributed to pedagogy and, ultimately, student learning and achievement.

Most boards said they had been able to achieve a deliberate shift in data culture from weaker to stronger forms. In one case, teachers shifted their practice from an unsystematic method of assessing students' needs and adapting instruction, to a more thoughtful approach:

> Prior to ESGA, a child in grade 6 who was identified with special needs might simply have been given grade 3 academic work. This kind of practice was based neither on systematic knowledge of what students could perform nor on high expectations for students with learning disabilities. 'Now we're definitely using our assessments as tools to see exactly where the child is at.'[204]

Following ESGA, teachers in this board made increased use of data to guide decision-making about what students know, to evaluate classroom performance, to design instructional interventions, and to make special education referrals. Survey results also indicated that, following the start of ESGA, on average, teachers agreed that their schools made better use of assessment data to guide instruction[205].

The extent to which boards said they were able to create stronger and more successful evidence-informed cultures was connected to, and affected by, the evolution of other aspects of the schools' professional culture, and how well evidence-informed improvement was integrated into these cultures. The establishment and implementation of professional learning communities where teachers were deliberately drawn together to examine data and evidence in order to guide decisions about, and develop collective responsibility for, student learning and achievement, was the clearest example of this. The strength or weakness of data cultures was also related to the ability of schools and boards to respond constructively to teachers' concerns about this new development in their practice. These concerns included ease of access to data, the amount of time spent on assessment, and the need for training and support to develop their capacities in the productive use of data (see also Datnow, Park, and Wohlstetter, 2007).

One board exemplifies the differences that providing these supports could make. It had identified data-driven decision making as one of four pivotal areas in its ESGA initiative. However, at the outset of the project, teachers voiced frustrations about how the new

data systems were not aligned with the type or timing of data they needed:

> [My colleague] and I collected data for our groupings but then I felt there were board deadlines that didn't really match what we needed. We sort of tracked it our way but all of a sudden we had to track it differently. It didn't match what we needed in the classroom on a day-to-day basis.[206]

The administration then responded to teachers' concerns by allocating time and resources to support improvement in data usage. Teachers were provided with classroom coverage so that they could meet and discuss data and its use in instruction. With additional support in place, board staff said that teachers began to see the value of data:

> There were naysayers, but I think the data was what really pushed them towards a paradigm shift, when they could see that students they thought were doing very well, in fact weren't; or students who did not do very well and with some additional attention through interventions, they saw quick gains over a short period of time.[207]

These patterns of reported implementation of data use and the development of data cultures need to be interpreted with caution, though. Perspectives on the effectiveness of cultural change in data use tended to mirror those of reform implementation generally – administrators had more favourable perceptions of the level of implementation compared to teachers. In this respect, board-level representatives and administrators claimed that data were being used to make strategic instructional decisions for students, but school visits and interviews with teachers revealed far less evidence that data had been well integrated into instructional practice and successfully employed in the service of DI. For example, one board appeared to collect a wealth of data and one of its leaders claimed that as "a pretty big data board we're probably further ahead than most."[208] However, school site visits indicated that the data warehouses were more likely to be utilized by the board's evaluation team and by central office administrators than by educators at the classroom level.[209]

Similar scenarios were evident in other boards.[210] One had a goal of combining various data sources into a single database.[211] This contained all of the diagnostic assessment data on students. However, teachers reported that entering the data was time consuming and missed the high-touch simplicity of the physical binders containing students' profiles with which they were provided at the start of each year. "To look up a student's score quickly, [I] now have to turn on a computer, find the program, and enter passwords. Before, I could simply open a binder near my desk."[212] This board was also still considering how it wanted teachers and principals to utilize the database.

Any change in professional culture can be difficult to accomplish and takes considerable time. Even in those boards where a strong data culture was a strategic priority, initial efforts were typically focused on a small number of "pilot" schools with the intention of scaling up the changes to other schools at a later point. The evidence of this study suggests that the development of stronger and more productive data cultures requires selecting and adopting the right tools and assessments along with employing an appropriate range of tools and sources of evidence. It also requires taking account of knowledge of local contexts and needs, as well as showing sensitivity and continuing attention to teachers' concerns (especially in view of the tendency of administrators to overestimate the level of implementation). Avoiding doctrinaire positions on data use in one direction or another is crucial. For instance, many kinds of evidence can be useful for reviewing students learning, including evidence contained in hard-copy ring-binders. Digital data are pertinent, but not paramount in a strong evidence-informed culture.

Professional development and support

The full integration of evidence-informed practices into classroom instruction represents a significant shift in practice. Many boards therefore provided professional development for their staff to help them implement, analyze, and use data from student assessments properly; and to be able to facilitate PLCs effectively. As with professional development within ESGA in general, support for data use also became more job embedded, or at least school

based, and was targeted at issues that were specifically identified by teachers and administrators.[213]

For example, one board provided professional development on data collection and reporting, and on the use of assessment results in reading and in kindergarten classes.[214] Another board focused initially on introducing assessment instruments, and followed this with professional development that supported the adoption of evidence-informed instructional practices.[215] Similarly, survey data indicated that, through ESGA, most teachers felt they had the training and support they needed to use assessment data effectively, and that data-related PD had become more useful.[216] At the same time, some teachers indicated that they needed more support and others felt that professional development on this issue was consuming too much time[217].

Professional learning communities

The culture of data use in the study boards was often connected to larger cultural shifts in teacher collaboration and to the creation of professional learning communities, in particular. The authors of EfA recognized the role that PLCs played in transforming professional culture in general.

> A professional learning community is exemplified by collaborative work that is grounded in reflective dialogue, in which staff have conversations about students, teaching, and learning, identifying related issues and problems and debating strategies that could bring about real change in the organizational culture.[218]

As Cross-case theme 3 indicated, EfA presented and interpreted the idea of professional learning communities in line with the original definitions of the term (e.g., Hord, 1997) to mean collaborative processes of inquiry into improving practice, where the community was as committed to one another as people as they were to the improvement goals and learning outcomes they were pursuing together (see also Hargreaves, 2003). More often, though, professional learning communities have amounted to deliberately constituted teams that examine numerical student achievement data together in order to design and implement improvements and interventions on a real-time basis, often so as to secure short term gains in achievement results (Dufour & Eaker, 1998). It is this use of deliberately constituted teams to examine evidence of student learning and achievement that we examine here – the idea of PLCs not as characterizations of a whole professional culture and its way of life but as the formation of particular teams to undertake the task of evidence-informed improvement.

In at least half the boards, PLCs of this specifically constituted kind were one of the primary venues, or even the sole venue, for analyzing student data and discussing instructional strategies to address student needs.[219] About 70 percent of teachers who were surveyed said that since the start of ESGA, they were more likely to examine student work. In each surveyed board, respondents reported that they were more likely to discuss data and student achievement results with their colleagues[220]. In one system, the board leadership provided teachers with dedicated meeting time to analyze data, and to draw on their fellow teachers' expertise in data analysis and instructional techniques [221]

If PLCs represented a dominant *form* of professional data culture in terms of professional interactions being structured in a particular way, the *content* of PLCs was evident in strategies for analyzing data, and in suggestions for altering instruction.[222] In one board, a common language in the use of a set of assessments, prompted deeper conversations among teachers and greater fluency in data use.[223] Teachers drew on multiple measures of complementary evidence through common assessments or rubrics that provided them with a language in which they could discuss and compare their students' needs. Moreover, teachers were able to collectively set student achievement targets, jointly develop an understanding of their students' performance, and use the insights that were gained to inform pedagogical decisions.

> I think five years ago we kept groups and they stayed the same all year long. We had our little reading group and this and that. I see groups changing all the time in all classrooms. The instruction is very focused now due to the DRA and other assessments. I'm very focused when I come into the

classroom focused on certain students and certain topics.[224]

Exemplifying the tendency for data cultures to be richer and to extend beyond superficial or stilted interactions about test scores when pre-existing professional cultures of high trust and strong collaboration already existed (Datnow, 2011; Daly, 2011), this board had already established a culture of "data-talk" prior to ESGA in which data were discussed in relation to decisions about instructional goals.[225]

Another board formed collaborative teams of classroom teachers, special education teachers, and instructional leaders that

- undertook a continuous process of assessment and monitoring in which team members developed an instructional unit, and administered, reviewed and discussed pre- and post-assessment measures.
- used data to identify students who were at risk of falling behind and developed learning profiles for them - including just-in-time interventions such as differentiated instruction.
- reflected on the entire process and discussed implications for the next cycle of assessment and instruction.
- were aided in this effort through support and professional development from a board consultant serving as a DI specialist who provided literature and resources, modeled strategies, observed teachers' lessons, offered feedback and facilitated discussion.

The result in this case was a board that was not so much data-driven as evidence-informed. Its culture valued many kinds of data, exercised judgments which included educators' expertise and their experience of professional and classroom relationships, and used the data to deepen understandings of students, not to replace or override those understandings.[226]

Professional learning communities had great potential, but some elements could also be problematic. The cultures of professional learning communities required appropriate structures and adequate support systems so that they could operate effectively. They needed to be integrated with instructional priorities rather than being at odds with them. And they needed to make systematic yet prudent use of a wide range of assessments, rather than devoting exaggerated attention to formal assessments in general, and to the target-based, threshold requirements of EQAO in particular. We will now examine each of these issues in turn.

Limitations of PLCs and Data Use

1. Structures and cultures

Deliberate *reculturing* of an organization can and does occur in a number of ways. Common language, constantly repeated beliefs, new tools and protocols – these are some of the measures that leaders use to develop and transform how their organizations work. New structures of roles and responsibilities and the establishment of new units or departments of organization also provide means to reshape the likely patterns of interaction – the form of an organization's culture.

PLCs were, as we have seen, one way of nudging teachers into greater data use, and they did lead to many discussions about achievement, targets, interventions and student work. These PLCs were harder to sustain after funding became more scarce, though, particularly in widely dispersed boards where the costs and opportunities for meeting were more challenging.[227]

Most boards also created structures and systems to collect, disseminate, and analyze various forms of data. Having such a system in place is a key feature of strong evidence-informed school systems (Datnow, Park, & Wohlstetter, 2007). However, in terms of their ESGA initiatives, this was as far as a few boards were able to get.[228] Even in those cases, teachers were often concerned about the accessibility of information.

In boards that were successful in adopting an evidence-informed culture, where the importance of data use was clearly articulated, respondents noted how ESGA served to bring together various complementary initiatives – including data use – by grounding the new ESGA initiatives in programs and structures that were already established.[229]

> So to think that you were to grow expertise in a set of schools and then add more schools and more schools and more schools is kind of flawed thinking here. So we had to think "what were the things that would grow system capacity in our project structure"? And so we thought about what things are in place now that would always be in place or that would be in place for the long term that could help us sustain?[230]

The most promising boards – those where there is evidence that a data culture may be sustainable – were able to fully integrate some, if not all, of their data-based reform efforts under ESGA into educators' practices. For example, at the time of the site visit, one board was continuing to use data for informing instruction.[231] Interest in collecting and using data to measure progress was strong and teachers had maintained practices such as using data to detect and support targeted instruction to meet learning needs. In fact, the use of diagnostic assessments is now part of routine practice.

In boards where a culture of data use was underdeveloped or still developing, the data tools and resources were poorly formulated or underutilized. The centralized data banks and warehouses could feel overwhelming. One board still lacked a central data system and, although administrators were interested in shifting to a more data-driven system, they had yet to accomplish this.[232] In another board, while a data culture was evolving, and a web-based data system had been put in place, board leaders had yet to translate their ideas about using data to inform their instruction into a well-developed strategy for instructional data use that would be accessible and intelligible to all. [233] Support could be critical in these circumstances. A teacher in another board explained that at first, the amount of data to be collected and studied was "a little overwhelming," but was manageable when support was provided.[234]

2. Assessment and instruction

A commonly expressed challenge across the boards was defining and maintaining the appropriate balance between assessment and instruction. Teachers' survey responses indicated general agreement that since the start of ESGA, assessment data were being better used to inform instruction. However, they also noted that an increase in assessment had drawbacks. On average, teachers were generally neutral or they expressed agreement with the statement that that there was too much reliance on data and not enough attention to professional judgment.[235] Teachers and other educators in several boards said that assessment data were useful for informing instruction, but that the amount of testing had some undesirable effects.[236] Specifically, they felt that they "miss out on too much valuable teaching time to do these assessments" [237] and this left "very little time to cover curriculum."[238] One response to this dilemma was to integrate assessment and curriculum more carefully – to convert assessment *of* learning into assessment *for* and even *as* learning. Over time, for example, teachers in these two boards were able to change how they used data by incorporating assessment into everyday lessons, thereby making the time they spent on assessment more valuable.[239]

Shifting teachers' beliefs about the value of using evidence to support instruction sometimes depended on strategies as simple as providing teachers with more support and time to learn the new assessments and how to apply them. Prior to ESGA, for example, teachers in one board were not very systematic in their assessment practices. They remembered how "every teacher had her own observations. So one teacher could say "my child is not meeting expectations" and the other one could say that they're "exceeding expectations."[240] However, by the second year of ESGA, teachers realized how helpful the data could be, because it gave them a useful snapshot of the child's current state and what areas needed focused support. The standardized assessments helped them group children so that differentiated instruction could be implemented feasibly.

Some teachers were skeptical about the value of the plethora of assessments in relation to their own instruction. Many of the board mandated assessments, such as CASI, some said, only told teachers what they already knew and took them away from teaching. Ironically, while a greater array of measurements and diagnostic assessments might avoid all the usual problems associated with employing one standardized

instrument, the sheer extent of assessments could then prove overwhelming and distracting instead.

> The diagnostic assessments, although very beneficial in tracking students' success and need for assistance, have taken over as the main focus. Our Board has now mandated the use of these assessments with set timelines for administration of these tests. Now, rather than using them when we feel it would be most useful, we have to interrupt the flow of learning to complete the tests, mark and input the data. The students' abilities often change within a short period, making the data invalid.

Other teachers were more than merely skeptical about the assessment process. They were downright suspicious. Teachers in one board felt that the movement toward assessment and data use was a top-down mandate. They described a compliance-driven environment where everyone has to "collect their data. They have to have data walls."[3] Indeed, some teachers felt that the focus on data signaled that "the watchdog at the Board is checking." Since the board was able to identify which teachers failed to input data into the system, the fears were not necessarily unfounded.[241] This board's culture of evidence use was largely superficial, exhibiting a clear gap in the perceived utility between administrators and teachers. The intense and imposed nature of data use in these circumstances created union tensions over teachers' workload and required the Board to provide supply teachers to cover lessons so that principals could meet with their teachers

Other teachers were concerned that the test data were being used not to track the students but to monitor the teachers in a form of professional surveillance. One teacher's open-ended survey response expressed it like this:

> I feel that too much emphasis has been placed on the EQAO results throughout the district and that too much of our professional development is used to address the EQAO results. I feel that my professionalism is questioned because some teachers are not doing what is asked and instead of those teachers being addressed there is a wide blanket thrown over all of us.

Many of the tensions and frustrations that teachers experienced in relation to the new cultures of data had to do with what they experienced as conflicting and contradictory demands to develop differentiated instruction that would meet the needs of all learners on the one hand, and the high-stakes priority given to undifferentiated, standardized assessments on the other. These tensions were evident in at least three boards. Consultants and teachers were frustrated that "the Ministry supported all of this [DI] [including] all of these creative differentiating instruction activities, and yet they don't make their provincial assessment to match that."[242] One elementary teacher put it this way:

> I do think DI and the EQAO test are dramatically different in the fact that in DI we want kids to think and talk and compare answers and contrast and debate and all those kinds of things. And then EQAO is three days where you sit and you do not speak to anyone and you write. They're two foreign worlds from each other.[243]

3. Threshold versus growth assessments

One controversy in the field of educational assessment and accountability concerns the relative merits of threshold assessments that judge performance in relation to a set target or standard, and growth indicators that measure performance against past performance in terms of progress over time (Linn, 2005). The controversy can be particularly strong when these two kinds of indicators are juxtaposed against one another. This has been the case in Ontario, where students have been measured and compared to the EQAO standardized assessment targets and thresholds – especially the provincial target of level 3 proficiency –

[3] Data walls were typically visual displays of students' test scores – EQAO, DRA, etc. – that tracked individuals' progress. Color coding was often used to signify their standing relative to board or provincial performance benchmarks.

and where they have also been measured in relation to their movement between levels of achievement that, in the case of special needs students, are often below level 3. To understand how these tensions played out, it is important first to describe the context of instructional intervention in which the province's intensifying assessment system was employed.

As we have seen, many boards sought to increase literacy skills and literacy outcomes for students by introducing a range of assessment instruments, and by promoting data-driven decision-making in professional learning communities. These boards developed data walls that enabled them to visualize the progress students were making toward the provincial benchmarks. The purpose of the walls was to track the literacy progress of each student. These data walls listed the various reading levels (emergent, early readers, transitional readers, and extending readers) and represented individual students and their current levels of achievement and progress by letters and numbers according to diagnostic assessments undertaken in October, February, and May. A colouring system highlighted the progress of each student: red representing students falling below provincial benchmarks; yellow indicating those at risk of falling below, and green showing students who had met the benchmarks. As students' progressed, their marker changed colour appropriately.

Teachers consulted these data walls weekly in order to track their students' progress. Students who were below the provincial benchmarks, as well as those just under the benchmarks, were flagged and tailored interventions were devised to raise proficiency. Teachers were trained to differentiate instruction in order to help these students. Teachers also referenced the data walls when establishing "Specific Measurable Attainable Realistic Timely" (SMART) goals that challenged students to move to the next level by giving them achievable short-term goals.

This technology for tracking progress did increase the likelihood that students' problems would be picked up in real time, that interventions would be timely, that improvement goals would not be too vague, and that everyone would take responsibility for all students. At the same time, the connection of this tracking system to the "Drive to 75" and the particular importance attached to achieving level 3 proficiency, could lead to cynical concentration on meeting these targets, and even on various ways of manipulating the system in order to do so.

On the one hand, many educators endorsed the validity of the EQAO assessment as an indicator of students' achievement because it is "an Ontario assessment based on the Ontario curriculum. It's developed in the province by teachers who are practitioners in the field." System administrators tended to be especially supportive of EQAO because this was a way for them to understand progress in their system and to exert leverage over their schools. Many principals saw some benefits to EQAO and so too did special education resource teachers. The latter group felt that EQAO often pushed classroom teachers to take responsibility for all their students and to raise their expectations for students who had been formally identified as having learning disabilities, rather than passing along responsibility for these students to the resource teachers. "EQAO provides a starting point for teachers - to review what the strengths and weaknesses are from the previous year's results. Teachers then plan the (teaching-learning) cycles according to the needs of their students."

EQAO and other data-driven assessments of a more diagnostic nature built momentum in the boards to recognize where children were currently placed and then to move them forward. The focus for student achievement in every board was that all students would learn and that teachers would take students from their current level to a higher one.

> The belief that all students can be successful with the appropriate programming, and strategies in place, allows us to realize teaching students whether they are - special needs or not - is just as important. We teach all students knowing their strengths and areas of concern, and develop next steps accordingly.[244]

In the best case scenarios, and in the views of administrative staff especially, the assessments raised expectations for all students, enabled teachers to set more specific goals for each student, prompted teachers to listen to each other's ideas more, created a common language for them to talk about their students' achievement, and developed a sense of collective

responsibility for all students' success. "We speak the same language when we discuss the aforementioned assessments; we know what the other is referring to, and can therefore more readily arrive at a consensus on approach to grading, critical thinking, etc."[245]

> The Board's focus on data has increased my awareness of student achievement in the whole school. We have included French and English teachers in discussion about data and it has increased the capacity of all teachers working with special needs students. It has helped us set specific, measurable and attainable goals for our special needs students and all students.[246]

In the best cases, EQAO results were not considered in isolation. They were combined with other measures and professional judgment. "The individual EQAO results are considered one 'piece of the puzzle' because we also observe other informal testing."[247] "Discussion is centered around how to move a child forward, based on subject & ability using our professional judgment & data together."[248]

On the other hand, the high importance attached to EQAO could also have detrimental effects on the authenticity of the entire assessment process and on the inclusiveness of improvement efforts. In a classic article on the effects of standardized testing and the impact of Adequate Yearly Progress indicators under No Child Left Behind Legislation in the US, Jennifer Booher Jennings (2005) described how teachers tended to focus most of their efforts on what are termed the bubble students; those students whose current performance was in the bubble just below the threshold target of adequacy – because, it was felt, this focused effort would yield the greatest returns for the school's high-stakes scores.

Ontario had set a high-stakes "Drive for 75" proficiency as a provincial target in literacy, and although punitive consequences did not ensue for falling beneath this target, the pressure to move as many schools as possible to this standard were still often considerable. Some educators felt this pressure was justified and useful, leading to genuine and measurable progress in students' achievement over time. As one survey respondent put it:

> The Board-level focus on EQAO results actually helps me compare my identified students to all students that have written the EQAO. We try to move our level 2 students to level 3, 3 to 4, etc. Teachers try to identify the gaps and to close it. It is no different for our identified students.

Although many administrators and special education resource teachers were well disposed toward the value and impact of EQAO assessments for drawing attention to, and raising expectations for, all students, classroom teachers were much more critical of the EQAO process -- not because they simply didn't like to be assessed or accountable, but because they felt that their efforts were being diverted towards students just below the Level 3 borderline whose scores counted more than those of other students -- notwithstanding the genuine and legitimate needs of all students. Teachers reported that these emphases were often conveyed to them by the administration.[249] The resulting environment became more data-driven than evidence-informed in its culture. It also created inner conflicts for teachers who took the EfA message to heart and wanted to improve the achievement of all students, not just those on the cusp of the proficiency cut score.[250]

Teachers in one board, for example, reported that they were under constant pressure from the administration and the Ministry to move students to the 3.0 threshold of measured proficiency and to concentrate especially on those students hovering in the 2.7-2.9 range. Educators said that they had been told by system leaders that "they need to push (these students) over to the next level." One interviewee recalled being instructed: "Keep doing [the] (special education project) thing. But for those groups of children (near the threshold), we need to do something different, a different skills set to work with those kids, more differentiating for that group." While educators recognized as a general principle that they must be "more precise in their teaching," these borderline students clearly took priority over all of their other students—including those whose academic performance was lowest and arguably in need of the greatest attention.

A chart hanging in the principal's office at one school represents this policy-driven hyper-focus on those students at the 2.7-2.9 and 3.7-3.9 ranges, whose advancement was critical for a school to meet its established targets in the Drive to 75 on the EQAO. On the chart, the number of students who fell into these categories was circled in order to stimulate focused interventions that could possibly move more students to a 3.0 or 4.0. Note that these are not the students whose performance was the weakest. The students with better performances also do not merit the most attention. In this struggling school, it was the administratively mediated policy pressures that drove e educators to attempt increase the number of students reaching or exceeding the benchmark score.

In preferentially intervening with students near the borderline of measured proficiency, teachers' efforts were drawn *away* from other students whose achievement needs may have been just as great or greater. "That's been a thrust in low performing boards. You need to look at results. You need to look at 2.7 to 2.9 and figure out how to get them over the 3.0 hump. There was no consideration for all the school has done to get kids into level 1." Bumping these learners to the next level would raise the overall test results of a school and further its goal of meeting the Ministerial requirement to move higher percentages of students over the threshold of measured proficiency. Similar processes were reported throughout the province. "We are clearly told to increase scores," said one educator. "This is best achieved at our school by working with the mid level group."[251]

One senior Ministry official was keen to recognize the progress that had been made throughout the system in "kids moving from level 1 to level 2," and he wished that more official attention could be drawn to emphasizing these significant achievements that other students were making. He also felt that some of the movements of students to Level 3 proficiency were real and necessary. However, he continued, progress between level 1 and 2, say, that actually amounts to the achievement of functional literacy that enables children to start to participate in the rest of the curriculum, was

> not part of the public domain from a perspective of how we are doing as a province because the provincial standard is Level 3 and that's what's deemed to be the standard. Externally it's up to the government to determine what it chooses to promote on behalf of the government. And when you have already established targets and that's a significant part of the present government's mantra, I'm speculating that they don't want to be perceived to be changing the nature of those targets.[252]

This does not mean there was a bureaucratic or political intention to have teachers concentrating all their attention on the "bubble students." Indeed one high level official was emphatic that they "never wanted the motivation to be about the test scores. It was always about the skills and the fact that the kids have more potential than we actualize." There was, he said, no plan to focus all the system's energy on students just below the Level 3 threshold either as a desirable goal in itself or even as a necessary evil to achieve a greater end.[253] At the same time, the existence of practices in some schools that concentrated disproportionate effort on borderline students did not come as a surprise to him.

> I think it's completely unnecessary and inconsistent with what we wanted but obviously did not successfully communicate in those cases. Our communication and substance was never about the 2.7's. That doesn't mean that (the Literacy and Numeracy Secretariat) may not have had some people who didn't communicate that because they had 80 people involved. Messages can get twisted. One of the things I always communicated to people about EQAO is that our results are weakest in higher order skills. We are not going to get to 75% by drilling kids because they already know that stuff. They need reading comprehension. They need rich literacy environments. That's how we're going to get to 75. So it's not about doing the test prep. We told people not to do test prep. That doesn't mean people didn't do it. I'm sure they did at some schools."[254]

The existence of the "bubble student effect" is simply a systemic consequence of inserting high-stakes targets into a system that will organize itself to produce the desired results even against explicit advice to the contrary. In the words of John Seddon's critique of Sir Michael Barber's (2009) approach to policy deliverology in the UK, and its red/amber/green (or RAG) tracking system for meeting and progressing towards system goals in education, health and other policy domains, "the 'targets bureaucracy' takes over the management of the work; the focus becomes meeting the targets rather than improving the way the work works" (Seddon, 2008: p. 119). Once high-stakes targets with arbitrary numbers are inserted into any system, the system will then organize itself to produce the required result by creating a set of "perverse incentives" to manufacture the numerical outcome (Bird et al., 2005: Seddon, 2007).

Threshold assessments have undoubted advantages. They can sharpen the system's focus and concentrate people's attention on intervening in real time whenever there is a difficulty, and on developing shared professional learning, common language and collective responsibility among teachers in responding to the needs of all their students. But when these assessments are linked to high-stakes, externally imposed targets that do not encompass a wide range of assessments, then the significant growth that is occurring for students with special needs far from the proficiency target can be overlooked or underemphasized; teachers can feel compelled to concentrate on those students nearest the threshold and not those with the greatest need; and both administrators and resource teachers can come to prefer the threshold measures more than do their classroom peers -- for reasons of leverage rather than for ones that address and achieve the general improvement of learning. It is for these reasons that we return to the respective roles of growth compared to threshold assessments in our recommendations.

Conclusion

This section has examined the nature of evidence-informed and data-driven cultures within ESGA. There appear to be three essential factors that facilitated their development and maintenance:

- strong communities of practice that included classroom teachers, special education teachers, and other professionals;
- professional support and training that was responsive to the needs and concerns of teachers; and
- the collection of multiple measures and other indicators of student achievement that focuses on the progress of all students rather than mainly those with proximity to the threshold.

At their best, through ESGA, PLCs provided teachers with opportunities and expectations to collaborate – within and across grades – in the process of analyzing and interpreting various forms of evidence of student achievement. When teachers struggled with the process, they received their own type of differentiated instruction through targeted, job-embedded professional development. Over time, data became more constructively embedded in teachers' practice, encouraged by evidence of improved student learning (Datnow, Park and Wohlstetter, 2007). At the same time, data-driven or evidence-informed cultures are more likely to receive support and approbation from individuals higher up the administrative hierarchy, or further away from conventional classroom responsibility. Part of this is due to the need for greater pragmatism and integration in balancing the needs of assessment with the realities of classroom instruction. There is also a need for more official and everyday attention to, and acceptance of, growth measures of progress as well as threshold measures of targeted assessment so that teachers especially feel the assessments are genuinely supporting the advancement of all students. If this receives serious attention, boards that recognize the importance of both form and content of professional culture, and are persistent in refining implementation over time, are more likely to be successful in effecting cultural changes in the use of evidence and data that benefit all their students.

Cross-case theme 5: Responsive Diversity Practice

Introduction

Ontario is a multicultural trailblazer. Every year, it welcomes around 40,000 immigrant children into its public schools.[255] One in every four of the province's schoolchildren is born outside of Canada. Eighty percent of these learners do not speak English as a first language and the majority of them are from developing countries. Diversity rates are even higher when aboriginal populations are added to the equation.[256] Notwithstanding these statistics,, Ontario is a high performing province in education in comparison to the rest of Canada and even around the world (Fullan, 2011; Levin, 2005). Given its increasingly multicultural population, how does Ontario sustain such high performance?

Essential for Some, Good for All (ESGA) offers unique and important insights into this diverse jurisdiction's educational success. The vision of ESGA – to improve the educational experience for special education students while also benefiting mainstream learners – is itself a statement of inclusive aspiration: to meet the needs of all students, whatever their origins, abilities or identities. ESGA also embodies and advances a change strategy that deliberately responds to the province's student diversity by permitting and promoting diverse approaches to project design and implementation across its 72 school boards. ESGA is, therefore, defined by a dual diversity: diversity in responsiveness to the populations it serves, and diversity in the means it uses to achieve this responsiveness with different school board populations.

This section explores the role of diversity across the ten ESGA projects reviewed in this study. It also examines the strategies that have been prioritized in four of the most diverse boards as a way to help explain Ontario's impressive performance in a context of provincial diversity. This understanding can also assist other jurisdictions in developing reform solutions for similar circumstances.

Diversity in the Canadian Context and in Education for All (EfA)

Canada has a form of cultural democracy that critically scrutinizes prejudice while valuing race and ethnicity (Shields, 2002). For Canadians, diversity has two meanings. First, it is about valuing the preservation of cultural integrity. In this respect, immigrant students in Canada are not expected or pressured to abandon the cultural understandings or identities of their homelands. At the same time, Canadian diversity recognizes the importance of ensuring national pride among its people. In Canada, being half-Canadian is an admirable asset, not a flaw or liability. It is a matter of inclusive addition not a regrettable subtraction. Inclusive diversity is the product of an inspiring vision, not a source of national or social division.

Although EfA (2005) targeted special education, its purpose was also to provide grade K-6 teachers with strategies to fully support *all* students. Its vision provided space for boards to personalize their efforts in relation to multiple populations of learners. The language within the EfA document reveals its inclusive intentions. The words "diversity" or "diverse" occur twelve times. 'Diversity' is used in two senses. First, it is employed as a demographic category that casts an inclusive net across varying populations including students from racial, ethnic and linguistic backgrounds that differ with those of mainstream Canadians.

> Ontario has a long tradition of growth through immigration, with many people from around the world bringing their language, culture and experiences to this country . . . the diverse backgrounds and experiences of all people become a resource base that can enrich life and benefit all Ontarians (2005, p. 3).

Second, EfA uses 'diversity' as a descriptive term that articulates the wide variation in abilities among students. The report "provides Ontario teachers with specific strategies that will help them teach literacy and numeracy more effectively to students with diverse strengths and needs" (2005, p. 5). At points, the term narrows to focus on the range of abilities of special education students, such as "Ontario serve[s] a growing number of students with diverse abilities" (p. 2), but at

other points it is used to generalize about the range of skills and competencies across all schools and populations.

Many boards in this study interpreted EfA as advocating the promotion of the achievement of diverse students. Language, such as "children with special educational needs" yielded multiple interpretations through which boards tailored their projects. Some boards interpreted EfA as a document exclusively aiming to increase special education status; while others argued that children from varying backgrounds and those with different intellectual capacities could be included under the EfA vision.

This section examines and addresses six themes that were identified by the cross-case analysis and raises associated questions in each instance (Table 4.1).

Table 4.1.

Analysis Categories.

Theme	Description
Vision/Goal	What was the purpose of the project?
Target Population	Who is "diverse?"
Nature of Diversity	What does "diversity" mean in this context?
Strategies & Resources	How would you do it?
Enablers/Disablers	What advantages/challenges did y
Results	What did you find?

Four of the most diverse boards in the ESGA review sample are selected for more detailed analysis in this section because their distinguishable student populations are comprised of 40% or more of minorities: especially aboriginal, immigrant, linguistic or ethnic minorities (Table 4.2).

Table 4.2.

Student populations within the four highly diverse Ontario school boards.

Participating Board	Total Student Population	Diverse Population
1	115,000	80% Immigrant
4	35,350	40% Ethnic minority
9	7,700	98% Linguistic minority
10	5,446	40% Aboriginal
Total	163,496	

Pen Picture 1.
Highly Diverse Boards

Board 1. 80% of its 115,000 students are immigrants.

Board 4. 40% of its 35,350 students identify as ethnic minorities including a large number of Old-Order German Mennonites.

Board 9. 98% of the 7,700 students speak French.

Board 10. 40% of the 15,000 students self-identify as Aboriginal..

- Board 1 is one of the largest school boards in Ontario. It is divided into four geographical sectors and educates approximately 115,000 students (as of 2010). There are 199 schools in the board including 165 elementary and 34 secondary schools. The board is home to a large population of immigrants and minorities. It is one of the fastest growing areas in the province.[257] Since 2001, the number of residents who speak a language other than French or English at home has increased by 152%.[258] The area is dense with houses and frequently two or three families reside within the same home. There is a large population of South Asian students in the board. Many of these students were born in Canada, but their parents are immigrants and English is not the language spoken in the home. The families are generally supportive of education. The school offers several programs for families including

"snuggle up and read" and a summer head-start program for students new to the region.

- Board 4 encompasses sixteen communities in Ontario. As of 2009, the student population was 35,350. Approximately 22,567 students attend the 61 elementary schools in the board and 12,783 students are enrolled in the 16 secondary institutions. In addition to the emerging population of recent immigrants, there is a large population of Old-Order German Mennonites. The majority of the Mennonite students are Canadian citizens (in many cases generationally Canadian) but reside within communities that remain committed to the Mennonites culture. The Old-order Mennonites belong to the Mennonite church. Systems of mutual aid and their commitment to collective self-sufficiency distinguish the ethno-religious Old Mennonites (Gingrich & Lightman, 2006). Dressing in traditional attire, and speaking "low-German", they are culturally and linguistically distinct from mainstream Canadians. Cultural traditions align with those of the Mennonite church and its value system, which include respect for elders and the prioritization of the family.

- Board 9 is one of twelve Francophone school boards in Ontario. It is 68,150 kilometers long.[259] Widely spread out across the province, the travel time by car between schools in the board ranges from a few hours to over a day. There are approximately 7,700 students enrolled in this school board (as of 2009). There are 38 schools including 29 elementary schools and 9 secondary institutions. Over 1,000 employees (700 teachers) work within the board. This is a French-language board founded in Ontario in 1991. Most students in the board are both linguistic and a cultural minorities (Forlot, 2009). The board's responsibility is to pass the Francophone torch -- the history, language and culture of their community -- to the next generation through a solid education.

- Board 10 is a large, rural board located in a remote part of Ontario. It is 75,000 square kilometers in area and has a population of 15,000. There are 19 elementary schools and 5 secondary schools in the board. As of 2008, there were 5,446 students enrolled and 1,400 employees. This board includes 374 classroom teachers and 41 special education resource teachers. Approximately 40% of the student population self-identify as Aboriginal but that number is believed to be lower than the true number of students who could technically qualify as Aboriginal. In this board, the majority of Aboriginals are from the first nations community. Despite various programs and attempts by the government to improve the generational marginalization of these people, many argue that they continue to be misunderstood, misrepresented and mistreated (Beckford, Jacobs, Williams and Nahdee, 2010; Cherubini, 2010).

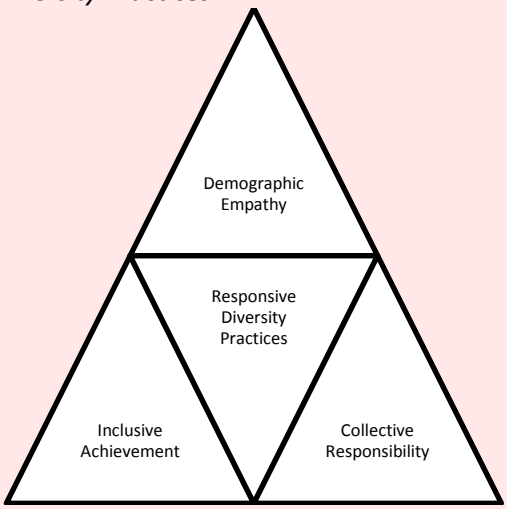
Responsive Diversity Practices

The way that school boards responded to student diversity through ESGA was explored in detail in the four boards with especially high concentrations of minority populations. Research on educational improvement in context of cultural diversity points to many ways of addressing the needs of these learners that include (but are not restricted to) curriculum interventions, responsive classroom pedagogies, cultural awareness training, parental engagement, monitoring and tracking systems, and extended school days (Darling-Hammond, 1994; Gay, 2002; Johnson, Moller, Pashiardis, Savvides, & Vedoy, 2009). The data from the highly diverse boards involved in this review reveal three interrelated patterns that together comprise what we call *Responsive Diversity Practices* (RDP) (Hughes, 2012). RDPs are intentional decisions, actions and arrangements that respond to the distinctive needs of diverse students and that go beyond simply recognizing students' heritage, providing short-term interventions, or other separate and specific measures. RDP comprises three elements: *Demographic*

empathy, Inclusive achievement, and *Collective responsibility* (Figure 4.3).

Figure 4.3.

Responsive Diversity Practices.



Leaders and teachers in the four boards employed practices that promoted sustainable, long-term transformations of teaching, learning and schooling that empowered diverse students while also supporting mainstream learners. These Responsive Diversity Practices are about

- *Democratic Empathy*: valuing the learner, and emphasizing the interconnectedness between schools and families, as well as local and global communities.
- *Inclusive Achievement*: identifying, shifting and refining preconceived understandings and expectations within schools and communities about student capabilities.
- *Collective Responsibility*: structuring teaching and learning within each school so everyone is responsible for ensuring diverse students are prepared with the tools to successfully compete with mainstream peers.

1. Demographic empathy

Demographic empath*y* is an asset-based view of diverse groups in a community. It calls on teachers, administrators and board staff to recognize that being *different* does not mean being *less than*. Rather, this asset-based perspective suggests that students who learn differently, who speak a different language or come from a background that values skills other than those recognized or promoted in school are equally valuable. Evidence of demographic empathy is visible in boards' interested in shifting belief systems, increasing respect and belonging, and building awareness of skill-sets.

In the words of an interviewee in Board 1, "the theory of change behind ESGA and behind educational change in general prioritized the importance of getting people to change their beliefs and expectations."[260] Moving towards a common belief system that valued all individuals was non-negotiable. "There was considerable thought and effort devoted to changing beliefs as a prelude to changes in practice, since such changes were vital to success."[261] In some cases, this meant difficult conversations and breaking down preconceived notions of the ability of students from low socio-economic backgrounds or other cultural backgrounds. Improving teachers' understanding about how to organize learning to help children from all backgrounds reach their highest potential through approaches such as structured, literacy-rich play in the early years helped to achieve demographic empathy.[262] It also meant improving the daily language used to describe these learners and "showing respect for [all students'] values and lifestyle."[263] In Board 4, one interviewee described how she sought opportunities to improve all students' understanding and tolerance for common Mennonite home life activities. "I find teachable moments in the classroom such as discussing farming, harvesting and other relevant topics to our [diverse] students."[264] A teacher in Board 10 reported a similar commitment to building tolerance and respect across her classroom, "[We] engage students in "restorative practices [and] real justice" that emphasizes a universal sense of belonging.[265]

Demographic empathy was also visible in interviewees' efforts to improve relationships with the community. One principal in Board 4 went beyond the traditional protocol of phone calls and letters home and went out into the community to find parents, build relationships with them and discuss why school is important.

> I did home visits. I attended every community activity I could. I would actually stand outside the supermarkets to speak to families and encourage them to send their children to school.[266]

Such strategies aimed to recognize and emphasize the interconnectedness between schools and families, within the local community and with a wider national network of family and community relationships. Insights into harvest season, understanding the role of girls in traditional Mennonite families and recognizing the financial struggles within this community, were all examples of demographic empathy that led to radical departures from traditional practices of improving attendance and raising achievement. Attempts to improve attendance during harvest season through mandate or legal requirement would only lead to families migrating to other parts of their community, and Canada or North America more generally.[267] And increasing commitment to education in school, educators realized, was a task that would stretch across a generation as teachers and principals established trust with existing families and built commitment to school-based education among the children who would, in time, become the community's new parents.[268]

Demographic empathy also involves recasting learning problems as being something more than deficient skill sets or cognitive impairments that belonged exclusively to the domain of special educational needs. These issues also have important cultural and linguistic dimensions. In one board an administrator recalled, "it was pointed out, early in this reflection process that aboriginal [oral language and literacy] problems are not special education issues. In fact, they are not even cognitive issues." [269] Rather they involve limited exposure to English or, in historical terms, these students' own indigenous language.

2. Inclusive achievement

A second aspect of Responsive Diversity Practice is *inclusive achievement*. Inclusive achievement is a willingness and ability to measure learning and achievement in a variety of ways. Inclusive achievement is neither achievement reduced to learning that is primarily assessed by standardized assessments such as EQAO, nor is it a diluted version of such singular and standardized assessment. Inclusive achievement, rather, encompasses high-standards, high-quality achievement across multiple domains. Inclusive achievement recognizes that learning and achievement must be personalized and specifically tailored to each individual.

In line with the principles of EfA, three ESGA projects encouraged teachers to employ strategies of differentiated instruction and Universal Design that benefitted all students – especially those who had been among the most historically challenged learners in their board. Inclusive achievement was integrally connected to demographic empathy. It did not substitute empathy for achievement but focused on "student's strengths as opposed to their weaknesses."[270] One teacher put it this way: "You must connect to them, learn their culture, ask questions and talk freely, but don't lose sight of your top goal, their academic achievement."[271]

One way to increase inclusive achievement for diverse learners was via increasing differentiated rather than standardized assessments. "Effective instruction is responsive to the learning preferences, interests and readiness of the individual learner."[272] These boards found this particularly important for students who speak a different language or have a different cultural background than mainstream learners. An interviewee in Board 1 described her vision of differentiated assessment as "changing the task but staying committed to the same skills."[273] A teacher in Board 9 reported that the ESGA project refined her understandings of testing her diverse students.

> [Assessment] doesn't have to be paper and a report. It can be a project. It can be a song. It can be theater or a movie. So [I'm] giving students the chance to prove themselves in multiple ways.[274]

Inclusive achievement in these highly diverse boards provided aboriginal students with greater opportunities to express their learning; it opened new opportunities for second language and immigrant learners to bridge their knowledge from previous schooling with the knowledge they were acquiring at their current school. Restricting learning to that reflected on standardized assessments can lead to misrepresentation regarding diverse students' academic growth and ultimately reduce learners' personal interest and motivation in school.

Collective Responsibility

Effective practices of responsive diversity depend on their being embraced as a matter of collective professional responsibility. Collective

responsibility extends far beyond external accountability to bureaucratic authorities and comes down to shared collegial commitment to every student's development and success (Elmore, 2004: Hargreaves & Shirley, 2009: Sahlberg, 2012). The four diverse boards show evidence that all teachers feel responsibility for all students, inside and outside their own classes, whether they have an identified disability or not. One principal in Board 9 illustrate how she seizes teachable moments through this story:

> Jordan didn't want to go in his kindergarten class today because there was a supply teacher.
>
> And I said, 'why didn't you want to go?'
>
> He said, 'because she's brown, I don't like brown people.'
>
> 'I see. Okay. Do you want to talk about that? Because you're white and I'm white and she's brown, [but] we're all different…'[275]

To ignore such a moment would have meant neglect of professional responsibility as part of a school team aiming to support all students. When students' backgrounds and languages differed from the mainstream, these boards suggested that even greater efforts were necessary. One teacher in Board 9 explained, "*Each* of our children has different strengths and different weaknesses – we spend time getting to know each one." [276] Another interviewee in Board 10 pointed out that, as a staff, they were responsible for *all* the students' growth, not just the ones that are native speakers or those that understand the Canadian context. "They're all *our* children now.'"[277]

A prerequisite to building collective professional responsibility was increased collaboration and interaction among teachers. "Essentially [we] wanted teachers to work together more often and more effectively, and aimed to set up structures to support this growth."[278] Teachers began to "share strategies [and] reflect collectively."[279] In three of the boards, increased collaboration improved the achievement of diverse students. In Board 9, for example, teachers brainstormed new strategies to enrich the French literacy environment for children from other linguistic backgrounds. The same vision for collective responsibility extended beyond the school grounds. In Board 4, staff created a "new space" for partnerships between Mennonite-owned businesses and their schools. While all four boards noted that, at points, building collective responsibility was challenging, ultimately they reported a "quantum leap forward" in the learning and achievement of diverse students as a result of paying attention to this priority.[280]

Responsiveness to Marginalization

The results of this analysis show how boards responded to the diversity of their student populations by themselves employing a diverse array of strategic approaches. Across the ten boards, there were many efforts to recognize and target diverse learners. Evidence of this recognition is apparent in how leaders interpreted the EfA document, how they refined their individual projects, and how they specified and realized the outcomes they aimed to achieve.

Users of the terms "marginalized groups" or "marginalized populations" can easily be pigeonholed, indeed marginalized, for seeming to subscribe to academic or ideological buzzwords, or for using a code-word that identifies them as belonging to and sympathizing with a particular intellectual community. Nowadays, we are often inclined to use safer euphemisms like disadvantage, achievement gaps, or even "diversity" to hint at but not directly confront what is at the heart of what is understood and uniquely articulated by the idea of marginalization. It is time for marginalization to be brought in from the margins; to re-enter the mainstream as a way to address more clearly and courageously who is most at risk and what is most at stake in the question to educate everyone effectively.

Marginalized groups are everywhere in our official systems – in housing, health care and public education. But in various ways, although they may receive considerable attention from those systems, and sometimes more attention than most, this is often in ways that push them to the margins of empathy and away from the right kind of responsiveness. In schools, marginalized families and their children may be immigrants who are new to a culture and a system and unfamiliar with how to engage with it. They may once

have failed in or been failed by the system and now feel ill at ease with it. Their language and ways of communicating may not be understood by the system. Their disabilities, sexualities, physical appearance and ways of behaving culturally may set them apart and make them prone to bullying and stigmatization. They may be least well served by practices of instruction, curriculum and assessment that are designed to address a mainstream and standardized norm. They will often be on the wrong end of the achievement gap, but that could be the least of their problems. They will suffer because they are deemed to be different.

One response to marginalization is to find ways to recognize those who are different and deal with them separately as people whose needs are not like the rest of us. Interventions, special programs, withdrawal, extra support – all these actions are ways to try to enable marginalized groups to be more like everyone else; to enable them to catch up, or close the gap with a bit more time, extra support, or customized pathways.

EfA and ESGA take a leap beyond this approach to marginalization. While acknowledging and advancing the need for supports and interventions that are distinctively appropriate for different kinds of communities, these linked initiatives establish a new platform for change which insists that we are all diverse, that everyone is unique, and that, in the words of one board's mission statement, "every child is a gift from God."[281] The point is no longer just to reach a standard or close a gap. Nor is it to use empathy for diversity as a way to accept and endorse low achievement levels and lack of success. Instead, the elimination of marginalization is about engaging with the diverse needs of all young people in the quest for opportunity, wellbeing, quality of life and educational success for everyone.

In this study, and especially in the four boards with high demographic diversity, responsiveness to diversity has been achieved not by designing and delivering standardized programs imposed in a uniform way across all schools and their cultures, but by implementing a reform, grounded in firm and high-minded principles, in a flexible way that is as inclusive of the diverse and discretionary judgment of education professionals within each board as it is of the diverse characteristics of its student populations. This quality of reform implementation is not simply inherent to the design of ESGA, whose formal requirements could have been met in a far more minimalist way, but it is integral to the professional understanding, judgment and commitment that educators brought to the reform in each board.

In a way, these boards understand ESGA as EMGA, Essential *for marginalized learners* (special education and diverse students), Good for All. Interpreting the *some* in ESGA as including *all marginalized* learners is a breakthrough for reform strategy and understanding not only in Ontario but also on a global scale. Whether a school board concentrates on a generational change in one of its communities, on creating more structured play in early childhood for second language learners, on developing cultural pride and identity as an equivalent priority to academic achievement, or on raising expectations for indigenous communities, the lesson of ESGA and of RDP is that in educational reform that is meant to promote the success of all students, one size truly does not fit all. This is not only true in aboriginal, Franco-Ontarian, immigrant or Old-Order Mennonite communities. One size does not fit all in any community. In this respect, the responsiveness to diversity that has been practiced by Ontario educators under the umbrella of ESGA merely recognizes the ubiquitous diversity that defines all humanity and that calls for concomitant diversity of informed yet discretionary judgment in professional response.

Among the boards we studied in our review of ESGA, demonstrating demographic empathy, increasing schools' commitment to inclusive achievement and promoting collective responsibility sent out a consistent dual message. Diverse students merit an environment that acknowledges and values their backgrounds. And quality teachers and leaders need to be able to deliver content and material in multiple, diverse and flexibly responsive ways that ensure success regardless of students' language and culture. The achievement of this double diversity in turn depends on schools and communities partnering with each other since they collectively teach and are responsible for the future citizens of Ontario. These are the elements that define the heart of the Responsive Diversity Practices that EfA and ESGA have enshrined and that, on the platform established by these two initiatives, Ontario school boards have come to exemplify.

Essential for Some, Good for All comes out of a tradition of special educational reform that has long

stood on the margins of mainstream reform practice and also educational change research. Even as we began our research, some of our most respected and distinguished colleagues in the province remarked, “Oh yes; that’s the special education strategy!”[282] In the way it has defined its purpose, its target populations and its reform practices, ESGA has been respectful of demographic and professional diversity and inclusive of everyone. In doing so, it has brought a new approach to educational reform that benefits all students and involves all professionals, in from the margins and into the mainstream of change theory and practice.

Cross-case theme 6: Inclusion and Accountability

Introduction

Education for All and the ensuing ESGA project represent a movement towards what many educators call increased inclusion of students with diverse needs. This has been happening at the same time as provincial strategies of increased accountability have focused on transparency of results in the tested and targeted areas of literacy and numeracy achievement and also high school graduation rates. Many proponents of inclusion welcome the coexistence of inclusion and standards-based accountability, framing each as a call for equal expectations (Pullin, 2005; Ramanathan, 2008). But outside Ontario, these two forces or movements have often been in tension (O'Day, 2002). Accountability pressures, such as those made manifest by a focus on standardized testing results, have often limited educators' ability to respond to concurrent demands, such as training teachers to diversify instruction (Datnow et al, 2006). Challenges like these frequently pull schools and school boards in competing directions.

Inclusion of students with special needs taxes local capacity, despite constituting a noble goal with which many teachers agree. Nonetheless, Ainscow (1999) argues that inclusive practices challenge basic roles and role relationships within organizations, including teachers' ideas about effective practice, their expectations for students' learning, and their sense of collective responsibility for all students. Accountability represents a set of additional, simultaneous challenges that do not easily coexist with other demands. Both Ainscow and McLaughlin (2010) argue that the call of inclusion for individualization and the demand of accountability to standardize practices pull schools in competing directions: differentiated approaches to instruction, assessment, and pacing on the one hand or uniform pedagogy in the service of testing on the other (see also Ramanathan, 2008).

The relationship between these two policies is made increasingly difficult in an environment that acts as if all students are identical and can demonstrate their proficiency at the same time and in the same manner on standardized tests (McLaughlin, 2010). Outside Ontario, teachers have certainly often experienced inclusion and accountability as being contradictory rather than complementary policies. For instance, Mayrowetz's (2009) study of the implementation of a standardized math curriculum found that participants felt unable to commit energy to both differentiation and the goals of universal achievement on a standard measure, and had to choose between the two. In their study of inclusive classrooms, Black-Hawkins and colleagues (2007) noted that teachers often felt inadequate to the challenge of meeting diverse student needs, tasks were rarely modified, and substitute tasks were often used instead. Teaching in a way that accommodates all students requires significant, ongoing support for changes in practice. The intensive energy devoted to meeting the required threshold of test scores often distracts boards from a focus on individualization.

Although in principle, inclusion represents an effort to promote equal access and expectations for students as well as capacity-building support for teachers, and accountability is a mechanism for enforcing equal expectations and opportunities, teachers have found it difficult to address concurrently the twin demands of differentiation and standardization. How has Ontario fared in reconciling these twin demands of inclusion and accountability?

The Ontario Example

In some respects, the recent reform environment of Ontario possesses many characteristics similar to those of other jurisdictions that have experienced tensions between inclusion and accountability. On the one hand, the highly inclusive approach to special educational needs as a strategy that addresses the needs of all diverse learners resembles similar movements elsewhere such as the Response to Intervention strategies in the U.S., which combine changes to classroom instruction with increased vigilance and precision about individual intervention (Welch, 2012). Indeed, many of the strategies advocated by *Education for All*, and encompassed within ESGA such as Universal Design for Learning were imported and adapted from other settings. At the same time, the accountability strategies of standardized

testing linked to high-stakes system targets have been widely used in other Anglo-American nations like England and the United States, and Ontario's literacy strategy was derived, in part, from the Labour Government's target-driven reform design in England (Fullan 2009). These similarities might therefore lead to the expectation that in Ontario, EfA and ESGA would encounter the same tensions between inclusion and accountability that have already been identified in other systems elsewhere.

Ontario's reform advocates are, however, eager to explain that the province's accountability model departs significantly from superficially similar designs in England and the United States (Fullan, 2011). Some of these differences are that Ontario has:

- *less extensive testing* – being applied to only Grades 3 and 6 in elementary schools (compared to Grades 3 through 8 in the US).
- *less punitive consequences* – with schools that struggle on the tests receiving support and assistance to increase capability rather than threats of transfers, firings, closures and top-down intervention.
- *more accommodations* in test-taking for students who do not speak English (or French in this case) as their first language, and for students with identified disabilities.
- *more generous support* - of training, resources and professional interaction (particularly compared to the U.S.).
- an orientation by government to respecting and *working with the teaching profession,* rather than regulating, restricting and criticizing it.
- *promotion of lateral learning and support* across schools rather than sole reliance on vertical intervention by system authorities that is pervasive in the U.S.

At the same time, the official approach towards special educational needs and its orientation to all learners is inclusive in philosophy and, as this report has documented, also highly insistent in practice. The preceding sections of this report, for example, have revealed how ESGA, at its best, has

- developed commitment to and practices of *collective responsibility* (or professional accountability) among all educators for the progress and success of all students.
- advocated for and advanced increased *precision and personalization* in differentiated classroom instruction.
- employed *assistive technologies* in supporting the learning, achievement and proficiency of students with special educational needs while extending the integrated use of technology for all students in the regular classroom environment.
- developed *professional cultures* for analyzing and acting on learning and achievement data in ways that stimulate caring and committed conversations about children, teaching and learning, rather than about improving performance numbers for their own sake.
- enabled sufficient *discretion* and *flexibility* to allow local boards to respond to the specific diversities of language and culture within their own communities.

ESGA has undoubtedly been unique in the level of flexibility it has offered local participants, allowing boards to propose a variety of ways to increase the capacity and collaboration of staff, as well as a variety of methods to demonstrate learning. And the accountability environment in Ontario has been less hierarchical and restrictive and more interactive and supportive compared to the U.S. and England, where some of the most critical research findings and intellectual commentaries on this topic have originated. That Ontario policy and strategy are more genuinely and persistently inclusive and less hierarchically punitive or restrictive than leading reform counterparts elsewhere suggests that the relationship between inclusion and accountability might play out differently in this high performing province than it has in lower achieving counterparts elsewhere

In short, there are good reasons to support arguments on either side of the accountability/inclusion divide – that Ontario might experience the same tensions as similar jurisdictions elsewhere; or that the tensions will be significantly less. What does the research evidence say? This section analyzes data from two contrasting boards, chosen from the ten involved in

the study, in order to shed light on this important question.

Board Offices

As we have seen, one of the key roles of leadership in bringing about a significant shift in the culture of an organization, and in reconciling the tensions and paradoxes that it often experiences lies in constantly and repeatedly communicating a consistent vision that binds members, their practices and purposes into a unitary whole (Hargreaves & Shirley 2012). Central office leaders in the two boards featured in this section were uniformly insistent about the need for this kind of messaging. Inclusion was about achieving equality and offering hitherto excluded students opportunities for learning, achievement and social acceptance.

One senior administrator was adamant that staff should come to recognize the potential of all learners, including those who seemed to have the least prospects or potential:

> We have kids that grunt. We have kids that can't walk because they've never been shown how to walk. We have kids that are wearing diapers and they're 7 years old. We have kids that have been served as human beings in a way that is almost criminal.[283]

Challenges such as these were a moral call to action for these senior administrators, not an excuse for avoiding such action. ESGA held a clear personal and moral importance for leaders like this one that extended far beyond raising achievement scores on EQAO. As we saw in the section on responsiveness to diversity, ESGA in this board was about installing "restorative practices" aimed at achieving "real justice" for all students, but especially low-income, aboriginal students.[284] It was part of the province's, and the board's moral economy.

Conveying the values of ESGA was vital. ESGA was about producing results and abandoning past excuses: "You can't say it's demographics. You can't say it's the increased number of aboriginal students coming into the classrooms," the board's leaders proclaimed [285].Teachers who felt that the instructional methods espoused by ESGA were unimportant were "not allowed to have that belief because if they're going to continue, we're going to make a change" [implying dismissal].[286]

Some of the Catholic Boards articulated these visions and moral purposes in terms of their theological identities. A senior special education leader described the role that faith played in ESGA and in the Board's work in general:

> It was fundamentally important that these projects honour our commitment in Catholic education to ensure the dignity in inclusion of every student and that they be shaped in ways that were good for a faith-based learning community.[287]

Viewed this way, inclusion is not about the placement of a student within a school. It is about who that child is as a human being, and about how instruction should be built around a vision that fully recognizes and values that humanity.

These messages were important parts of the formulation and early implementation of ESGA in the participating boards. The Director in another board was adamant about conveying the message that "loving [students with special needs] is not enough," but that these students needed to be supported in their academic achievement as well.[288] Most leaders further attempted to build the capacity of teachers to meet these lofty goals by helping them to collaborate and to enhance their instructional abilities.

At the same time as system leaders were communicating these moral missions, they also conveyed the importance of increasing performance on EQAO. Inclusion, in some sense, became a tool for meeting the performance goals of Ontario's "Drive for 75," - the pressure on boards to have three-quarters of students demonstrate proficiency. The Director of one board argued, "If you want to get to 75% - and it's a provincial target - pretty quickly you realize that the road for that runs right through special education."[289] Staff from several boards recognized the importance of increasing achievement among students with special needs, not only because they felt it was essential to support those students' learning, but also because they could not realize their EQAO performance targets without better serving these children.

In their desire to promote both relative growth and universal threshold achievement, however,

administrators struggled with what sort of progress to honour and what forms of pressure to apply when results were still not up to standard:

> I worry that in my messaging to our people, [when I] speak of unrecognized achievement, I absolutely believe in my heart that what we see in many instances is unrecognized achievement. It's incredible on the part of those kids and we should be celebrating those kids. (Yet) I worry that in trying to do that by saying (reaching level) 2.7, 2.9 is incredible, that I send a message to people that says it's good enough. (But) it's not good enough! I always try to say, "this is fabulous, this is incredible achievement, we need more, we need to go further." But I also worry that in all of that, we expect a cohort of children to achieve at a level that their classmates are expected to achieve. It may be unrealistic sometimes.[290]

This kind of inner conflict was characteristic of the feelings of leaders from several boards, and reflects an ongoing struggle to reconcile relative (growth-based) and absolute (threshold) measures of achievement for all students, especially those who may have made significant strides in achievement but who still fell short of the official threshold.

Many participating leaders were quick to argue that EQAO cannot—and should not—drive all aspects of their work, but felt challenged to reconcile the two metrics in their support plan for teachers. Consultants from Board 8 wanted a more balanced message from the province, arguing that "the Ministry supported all of this [DI] in their left hand, [including] all of these creative differentiating instruction activities, and yet they don't make their provincial assessment to match that."[291] Like many accountability policies, EQAO promotes standardization, asking all students to demonstrate learning in an identical format, on the same day, using uniform instruments, and under timed conditions. Staff saw this as being in conflict with DI.

Some boards found that the tension was alleviated by deciding not to focus exclusively on the grades in which EQAO was administered. One board discovered that a focus on foundational literacy was more effective and less fraught than concentrating exclusively on test preparation. While the planning of ESGA initially only focused on EQAO results in writing for the intermediate grades, it quickly became clear through teachers' conversations that students outside special education and issues beyond writing would also need to be addressed:

> As it unfolded and we began to see more and more connection between early language development as far as oral language development goes, it correlated with reading development, writing development, overall literacy development, [and] all of a sudden oral language became more and more important to us, particularly as that segment of the population that was coming to school without those rich [at-home literacy] experiences continued to grow.[292]

Other central office staff actually regarded accountability, in the form of EQAO results, as a lever to bring about a movement towards more inclusive classroom practices and towards the development of greater collective responsibility for all students' achievement. Accountability in these cases was not opposed to inclusion, but a means to bring it about by raising expectations for all and, concomitantly, increasing the sense of urgency

To sum up: board level staff variously experienced great tensions between threshold-related accountability and growth-based inclusion; found programs or grades that sheltered them from the greatest pressures of tested accountability, so they could concentrate more on growth-based learning and inclusion; or regarded test-based accountability as a high-stakes device to powerfully increase the level of attention that was devoted to inclusion.

Teachers' experience

ESGA hoped to do more than provide a theoretical basis for inclusion. It also meant to develop the capabilities and commitments - or professional capital as we now call it - of the teachers who would be required to implement it (Hargreaves & Shirley, 2012). For those teachers who were charged with creating differentiated environments in newly diversified settings, ESGA raised a tension between inclusion and accountability that was equated with these teachers seeing the goals of diversification and standardization

as being opposed to one another. Teachers also felt they had to make changes in their inclusionary practices that seemed at odds with accountability oriented requirements to undertake such activities as test preparation.

In one board, teachers noted that during their project's PLCs, they had been provided with significant amounts of data to guide their discussions that were overwhelming and unusable. They resisted including EQAO data in their collaborative discussions because the combination of EQAO data and the pressure for improved EQAO results, along with ESGA, as well as other concurrent efforts to make changes in their practice was too much to handle. One interviewee recalled, "At points my head was spinning there were so many changes. I couldn't keep up."[293]

When we returned a case study report to one board, a central office administrator was surprised to see evidence that "teachers definitely are feeling that they're under more scrutiny, more pressure from senior administration" as a result of walkthroughs, for example, where "principals are looking for specific things."[294] His board's plan, he felt, had been to encourage teachers to improve on measures of learning, not necessarily to increase administrative scrutiny of teachers' practices, but the teachers' documented perceptions were at variance with this board-level administrative view.

In response to these experiences of tension, some teachers and schools began to engage in the ironic process of selective, albeit temporary withdrawal of certain groups of students, with and without IEPs, from mainstream classrooms, particularly in order to prepare them for EQAO. In some cases, practice assessments were used to determine which students needed additional practice on discrete skills, so that those students would be temporarily removed for support. Several staff members argued there was a "need for some special classrooms" and for some teachers to "deliver some programs to students withdrawn from the classroom."[295] A few elementary teachers felt that this process was particularly helpful for behavioural issues, especially for "social skills programming" that helped some students eventually re-integrate into conventional classes.[296] One special education administrator argued that some students initially did not benefit from full-time inclusion, and that the board needed "a few targeted programs for a couple of kids so that they can get the skills that they need in order to reintegrate back into the classroom setting."[297]

Students were also occasionally removed from mainstream classes to receive special support, including "those ones that need catching up" and extra practice on specific, test-based skills. One of several special education support teachers argued that these models were an important part of the process for students struggling to meet particular benchmark skills: "We've had withdrawal models in elementary schools around special needs to see if [they] could improve skills in reading or writing." As many administrators made it clear in their interviews, inclusion is not about an ideology of absolute placement in the same class, with the same students for all activities, and many educators always intended that students who were withdrawn from classes would be integrated back into a mainstream classroom after a period of intensive practice and support. At the same time, removing students in order to practice the skills that are emphasized on the achievement test can lead to in-class differentiated instruction being eschewed in favour of less inclusive practices that are seen as producing results more rapidly. Withdrawal need not undermine inclusion when it is guided by the needs of the learner. But when withdrawal leads to abandonment of differentiated instruction within the class because of preparation for standardized tests, it becomes problematic.

ESGA enabled many educators to learn a new set of skills for diversifying and differentiating instruction. However, in trying to reconcile the tenets of inclusion with the demands of annual, high-stakes accountability, many school-level participants expressed frustration with what they saw as a conflicting set of objectives. They felt pulled in competing directions. Even as they learned to differentiate instruction, many did not differentiate their own assessments - using more traditional testing practices to prepare students for EQAO.

Reconciliation

Although boards that concentrated their ESGA efforts on the tested grades of 3 and 6 were more prone to accountability demands prevailing over the

move towards inclusion, projects that had a focus across all grades, or on areas like early literacy had much more room to maneuver. Many boards, schools and principals also worked hard to harmonize the two sets of demands that others experienced as irreconcilable. Their locally devised solutions – in keeping with the spirit and structure of ESGA – were cultural, technical, and structural in nature.

1. Cultural solutions include enhancing collaboration and collective responsibility between and among general and special educators. In the two boards that are the focus of this section, this included establishing board-wide positions such as Area Resource Mentors to support teachers within their classrooms, and to facilitate important conversations between general and special educators. These more collaborative and supportive measures helped to create an environment where improved instruction for all students became a more reasonable goal. Constant and consistent messaging about high expectations for all students in relation to growth and progress towards threshold achievement also underlined the importance of both inclusion and accountability, as well as their mutual compatibility.

2. Technical solutions included those designed to develop teachers' instructional capabilities. Nearly all boards supplied some form of additional professional development for teachers in differentiated instruction. This process was also modeled by board leaders who employed differentiated techniques in staff meetings to increase the amount of professional engagement. Some boards also published shorthand guides to various DI techniques to offer teachers a readily available toolbox in their classrooms. Other boards provided additional data and tools like data walls to teachers to enable them to track individual students' progress more effectively over time and customize their interventions for those students accordingly. Since inclusion and accountability call on different skill sets, these technical solutions built up teachers' capabilities to meet these different demands, and to make just-in-time interventions in developing their students' skills.

Structural solutions supported and sustained efforts to reconcile inclusion and accountability through the creation or redesign of staff roles and responsibilities. ARMs and similar structures provided new sources of support for teachers to learn new practices. Mergers of special education and curriculum staff at the board level reduced the likelihood that literacy strategies or responses to EQAO demands would be developed or experienced separately from the implementation of *Education for All*. Well-implemented teaching-learning cycles brought teachers together to pinpoint the progress of all students and pool their expertise to make the needed interventions to support their success. In these cases and in this way, the tools of data walls, the structures of the teaching cycles, and the cultures of collective responsibility and constant messaging acted in concert so that inclusion and accountability were perceived as identical or at least compatible rather than being at odds with one another.

Conclusion

Inclusion and accountability each have their advocates as tools for equity and excellence in education. But the system pressures of EQAO and the new mindsets and values of inclusive practice have been difficult to reconcile for some educators, especially classroom teachers, in and with the realities of their everyday working lives. As local educators struggle to balance these competing, concurrent ideas, board by board and school by school, it is important to recognize the staff who are striving to reconcile these architectures of change in their own minds, in ways that, as one principal said, are simply good practice:

> I said, "I won't do things just for EQAO." But will I work with good instruction for these individual kids? Absolutely. And did it happen in fact on EQAO achievement? For sure it did, but that's not *why* we did it.

At its heart, *EFA* is an aspirational as well as inspirational document. Local board-level leaders, principals, and special education and classroom teachers alike were asked to assume certain moral principles and act on those principles in their individual practice as well as in their relationships with colleagues. Communicating these principles—raising expectations for students with SEN, increasing collaboration among staff—was just as important as structures of specific professional development for differentiated instruction or as systems for disseminating data. These participating boards demonstrate the importance of attending to and cultivating coherence between

structural and cultural change. Embedding values in a coherent culture and giving them credence can sustain efforts, even in the face of inevitable leadership turnover, reform fatigue, or the advent of new priorities.

Reconciliation of *EFA's* call for more universal design with the pressure to standardize classroom practice and assessment that sometimes accompanies the pressures of EQAO is an ongoing struggle. One administrator said that teachers generally saw inclusion goals as "the morally right thing to do," but doubted that "a lot of them really had the capacity or knew what to do." "There was a very strong fear about very high needs kids," she said.[298] Accountability exacerbates this fear. Bureaucratic (rather than professional) accountability systems heighten general classroom teachers' fears that they will be unable to meet the challenges that universal placement can present. These systems can feel punitive for teachers, even where support measures are in place and there is no punitive intent. In practice, the result is that boards sometimes find themselves resorting to the practice of exclusion in the service of explicit test preparation to adjust to this fear. As a result, some of the basic principles of inclusion—like shared responsibility and recognizing diverse forms of achievement—are sometimes altered or lost because of the current implementation of EQAO.

Teachers interviewed in this extensive study were overwhelmingly committed to helping all their students achieve to their fullest potential. In general, they did not fear or resent being evaluated. Rather, they felt that the ways in which the evaluation was conducted and that threshold measures were defined undermined their capacity to serve and support their highest-needs students. Among the school boards involved in this study, the most promising roads ahead appear to be those that raise expectations for all students, see differentiated instruction as a way to meet the demands of standardized assessments, track and monitor all students' progress conscientiously and collectively, and refuse to indulge cynical non-inclusive strategies in order to yield short term or marginal test score increases for the sake of appearances rather than authentic student needs. Equally, this quest for integration of the two worlds of inclusion and external accountability can undoubtedly be further advanced by a review of standardized assessment strategies in ways that will support the achievement and communication of measurable growth as well as, and not in opposition to, the reaching of thresholds. The boards already possess the internal cultural, technical and structural solutions. Wider networking and communication of these strategies will benefit the system as a whole. Meanwhile, after almost a decade of systemic reform and its many documented successes, now is a good time for the province to review its strategies of accountability and testing so that they enhance greater inclusion and equity for all students and, thereby, move its teachers and leaders forward in helping this already high performing system reach the next level.

Thematic Summary

This chapter has offered a detailed picture of how ESGA played out over time across the ten study boards, viewed through the lens of six cross-case themes. Notwithstanding the methodological difficulties in establishing causal links between specific interventions and particular results, it is unarguable that ESGA has had a major impact on each of the boards. As the preceding discussion makes clear, the nature and extent of the impact did vary substantially from board to board. This is to be expected, and indeed was actually intended by the overall architecture of ESGA, in view of the diversity of the boards and the flexibility they enjoyed and employed under ESGA. The key findings from this cross-case thematic analysis are incorporated into an overall summary of all the findings from the study in the next and final chapter that also presents implications and recommendations that follow from these findings.

Chapter 5. Conclusions and Recommendations

This final chapter draws together the results from different parts of the study and conveys them through ten overall key findings and implications that transcend particular results. It closes with recommendations for special education reform in Ontario, for educational reform in Ontario as a whole, and for approaches to improvement in other educational systems more globally.

This review offers a comprehensive representation of a unique reform in special education. Given the close and carefully calibrated intersection of this initiative with Ontario's wider educational change efforts in literacy and numeracy, it also provides one of the very first, widely available, independently analyzed data sets on this high profile reform in one of the world's top performing jurisdictions on the OECD's PISA tests of student achievement.

Conclusions

The ESGA project that was initiated and led by CODE is one of the most remarkable and distinctive examples of a systemic educational reform strategy worldwide. It contrasts starkly with what is increasingly being understood and critiqued as the Global Education Reform Movement, or GERM (Sahlberg 2011), or what Hargreaves and Shirley (2009, 2012) characterize as Second and Third Way systems of school reform. These reform movements are increasingly driven by

- *Centralization* of top-down control and change delivery;
- *Individual autonomy* of (and market competition between) schools in terms of financial and staff decision-making;
- *Standardization* of teaching and learning that insists on educators' fidelity to and compliance with prescribed curriculum changes;
- Assumptions that people must be made to change their *practice before* they will alter their *beliefs;*
- *Data-driven improvement* through tracking, monitoring and intervention;
- *High-stakes testing and threshold targets* to direct the change process and demonstrate its success;
- T*echnology as a panacea* for problems with education;
- The *low status* and marginal importance *of special education* as a relatively unimportant or separately managed part of the overall reform process.

In contrast to these reform precepts that are widely embraced and implemented across the world, ESGA offers and exemplifies some striking alternatives, as well as some distinctive contributions to the theory and practice of educational change. In summary, the insights are that:

- Leading from the middle, school board leaders can be dynamos of system-wide change;
- Beliefs can and do shift before people's practices;
- Board-level discretion enhances responsiveness to student diversity;
- Collective professional interpretation and responsibility puts faces on student achievement data;
- Diagnostic assessments and growth or progress measures of student achievement can have a more positive impact on teaching and learning than do imposed threshold targets on standardized tests;
- Technology can be beneficial when it is wisely integrated with effective pedagogy;
- Personalization of learning has increased, but has yet to extend beyond flexible customization so as to embrace learning that has deeper and broader personal meaning and engagement for all kinds of students;
- Special education reform can provoke positive change across the entire system;
- A one-time change can have a lasting impact.

The contrast between these two generalized approaches to reform is summarized in the table below.

GERM	ESGA
Centralized delivery	Leading from the middle
Practice changes before beliefs	Beliefs also inspire and drive practice
Imposed standardization	Responsiveness to diversity
Individual autonomy	Collective responsibility
Data-driven improvement	Evidence-informed improvement
Pressure to reach thresholds	Progress measured by growth
Technology as separate solution	Technology as integrated practice
Rigid standardization	Flexible customization
S.E. is low status & marginalized	S.E. is integrated & integral
Short-term gains	Short-term actions; lasting results

1. Leading from the middle

Globally, much of the momentum of system-wide reform is being driven by the idea that control, direction and delivery should come from the central government and its bureaucracy. Curriculum, assessments, accountability and change management are all being increasingly moved to the centre. At the same time, in many countries, there is a parallel advocacy of individual freedom and autonomy for school-level decision-making. This advocacy takes the form of support for charter schools in the U.S., free schools in Sweden, academies in England, and "local autonomy" or professional trust in Australia. This policy combination does not characterize the world's higher performing educational systems and it is being and has been criticized for maintaining tight control at the centre while placing blame for the effects of managing with reduced budgets or failure to achieve mandated outcomes to individual schools.

What local autonomy does *not* mean in these reform models is the collective autonomy of schools working together under district (board) control, and of districts working together within a wider system, to generate and drive change. After a decade of research on, and advocacy for, district-level change in North America, districts in the U.S. and Europe are now being squeezed by a pincer movement of intensifying central control on the one hand, and sponsorship of individual school management on the other. Even in Canada, the present era of austerity is making board or district mergers financially attractive, so that local school boards will in some cases become more like large regional units for administering or delivering central policy. Given the perception, as one senior policy official confided to us, that school boards vary a lot in their competence and capacity to lead and manage change, district mergers may hold attractions to policymakers that are more than merely financial. However, just as the existence of ineffective corporations should not convince us to put an end to markets, and just as the variable degrees of competence in government departments should not prompt us to overthrow our governments altogether, so too should deficiencies in some districts not be used as a pretext for reducing the powers of boards or districts or for eliminating them completely.

The findings of this review reveal that Ontario's school board leaders and superintendents have been the dynamos behind the province's special education strategy, generating the forces that have given it momentum and energy. This influential group of highly respected middle-level school system administrators did not just deliver but also developed much of the reform strategy that included processes of coaching, mentoring, cross-pollination and communication of key ideas – especially during the "back and forth" process of project applications. They led from the middle. The capacity and agency of this group was made possible by a distinctive and counterintuitive resourcing strategy – one that eschewed *per capita* allocations to larger and historically more powerful school districts in favour of allocating equal funding that incentivized participation by all 72 boards, including the many smaller ones. This built for ESGA a critical mass of political and professional capital among directors and

superintendents of education, acting as an influential and well-networked province-wide community. In this respect, in line with other high performing educational systems such as Finland, Ontario's middle level leaders have shown that with the right reform architecture, interconnected school boards or districts and their present and former leaders can be dynamic forces for powerful educational change.

The impact of these middle-level leaders and of school boards working together points to the power of professional autonomy as a force for change – but this is not the individual autonomy of isolated schools, but the collective autonomy of interconnected schools boards and their present and former leaders from central bureaucratic control. Indeed, one of the distinguishing features of ESGA that was widely remarked upon was that it was not and never could have been a top-down initiative because it was more about actualizing a philosophy than implementing a particular, prescribed strategy.

One of the key ways in which the boards in this study operated in relation to ESGA was through leaders devolving responsibility for planning and implementation to a core team of key staff who jointly developed project goals, designed an implementation strategy and monitored results, making necessary changes and refinements as they amassed evidence on what was working and what was not. Being owners of the strategy, buy-in was not an issue for them. Indeed that ownership, and the corresponding commitment to the changes, prompted them to expend their professional capital over a long period to make this effort a success. Such an investment is not made as a matter of course for imposed, top-down reforms. Accordingly, the provincial investment in ESGA was repaid many-fold by the creativity, energy and persistence displayed by these core teams.

2. Beliefs before practice.

In educational change theory and practice, it has become a commonplace assertion and assumption that change typically occurs when people are pressured or pushed into changing their practices and, that with the right support, they will come to alter their beliefs. Ironically, in some respects, this idea that practice changes before beliefs has itself become a kind of systemic belief that is sometimes used to justify pushing teachers into adopting preferred reform practices of which they are quite skeptical.

The contrary case that people's beliefs change before their practices is too easily discarded and too often overlooked. Yet there is considerable evidence and experience to support it. Members of and converts to the world's great religions enact rituals and subscribe to codes of conduct based on faith-based beliefs, including those among the Catholic school boards in this study who held that every child is a unique "gift of God". Data-driven improvement - increasingly widespread among the boards in this study – embodies the idea that compelling evidence and collective discussion of its implications will shift people's beliefs about their students' capacities, will raise their expectations for all students' achievement (including students from marginalized groups such as aboriginal populations), and will highlight how students with learning disabilities can demonstrate their success on standardized tests. Likewise, data-driven improvement assumes that, once the scales have fallen from teachers' eyes, new and better practices will then follow.

Whether practice changes before beliefs or *vice versa*, should be determined not by opinion or ideology, but by the evidence. The results of this study of ESGA provide support for both sides of this debate. On the one hand, some special education resource teachers pointed to the impact of EQAO testing as a way of getting classroom teachers to take more responsibility for children with learning disabilities, rather than handing these students across to the resource teacher. Administrators pointed to how newly introduced protocols of professional interaction such as looking together at examples of grading practices or student work through somewhat challenging conversations about performance, had pushed some teachers into recognizing that their practices had been falling short, and that they could achieve better outcomes from students who had not been achieving well. Requiring special education and curriculum specialists at the school board level to co-sign board applications for ESGA funding was another procedural device to induce staff to work together more collaboratively.

At the same time, when educators commented in hindsight on the value of people being made to change their collegial or classroom practices, these testimonials largely came from administrative staff and

special education resource teachers who were eager to *change other people's practices* (i.e. the practices of classroom teachers). In this study and elsewhere, there is less evidence of either teachers or administrators acknowledging that enforced new practices have changed their own beliefs. The principle that practice changes before beliefs therefore seems to applied by leaders to other people more than by teachers or leaders to themselves.

On the other side of the practice/beliefs debate, this review of ESGA has unearthed considerable evidence that shifts in beliefs can inspire changes in practice. The philosophy of *Education for All* and its advocacy of universal design for learning, differentiated instruction, use of assistive technologies and development of professional learning communities, drew widespread approval for setting an inspiring direction for special education reform and for attending to the unique needs of each and every child. Catholic boards underpinned their attention to special education inclusion with their faith-based sense of humanitarianism. Teachers also mainly welcomed the fact they had more opportunities to meet with their colleagues in professional learning communities (except when this drew them away too often from their own students), and they valued reviewing their students' achievement data when this led to deeper and more productive discussions about particular children and their overall needs. The evidence of ESGA is that when change connects with the deep moral purposes and the professional aspirations of classroom teachers, and provides some discretion about how these aspirations are fulfilled, inspiring beliefs can be a significant factor in transforming practice. Beliefs can change practice at least as much as the opposite. In educational reform strategy, it is time to bring beliefs back in.

This restored insight does not mean we should now reverse the practice/beliefs formula, however. Other evidence from this review shows that the relationship between practice and beliefs is more interactive. For example, the professional development practice known as coaching at-the-elbow, widely practiced among the boards in this study, nudges people forward by altering their beliefs and also their practices in incremental and recursive steps over many occasions, until instructional coaches are able to remove the scaffolding of support (and also pressure) through a process of gradual release. Professional learning communities that concentrate their attention on performance data use evidence to shift people's beliefs and then their classroom practices, but the initiation of these PLCs themselves constitutes an imposition of new collegial practice. Restructuring through PLCs leads to reculturing of people's beliefs. And the introduction of new tools like anchor charts can be externally imposed as a new practice in some cases, yet collectively decided as a matter of belief in others.

ESGA used *structures* and protocols to nudge and even push new relationships into being by deploying common classroom tools like word walls and anchor charts; collaborative tools for staff reflection like data walls; new purposes and protocols for old procedures such as IEP meetings; structural mergers of some special education and curriculum departments, and the movement of the centre of gravity of professional development away from ballrooms and halls to job-embedded kinds of in-class support. In the end, it was *reculturing* of practices and beliefs that was the focus – to win the hearts and minds of teachers in bringing about change.

Even so, some challenging conversations could push people a little too hard; coaching could sometimes feel like enforced compliance or even spying; and the common tools that teachers had in their classrooms and professional learning communities were occasionally experienced as a non-negotiable imposition rather than a professional option. But, in general, ESGA represents a model of change driven by reculturing among all teachers that can offer important insights and inspiration for other systems.

3. Responsiveness to Diversity

A core characteristic of the Global Education Reform Movement, or the Second and Third Ways of educational change, is standardization. Standardization is not always or inherently a bad thing. We like the standard and style of service to be the same when it is part of a brand or chain that we trust and patronize. But when an airline's flight attendants read the same script in the same way whatever the route or the circumstances, then standardization leads to uniform imposition of minimal requirements rather than the attainment of consistently high levels of quality in a more flexible and responsive way.

In education reform, some changes have benefitted from standardization. These include the

elimination of corporal punishment, the use of clear protocols for fair teacher appraisals, and the processes used for identifying individual students with special educational needs. But the establishment of a positive school climate (rather then the mere elimination of undesirable punishments), the creation of positive cultures of teacher support beyond specific procedures of evaluation and appraisal, and the provision of suitably differentiated instruction for student populations that differ from one school or board to another, require exercising high standards of informed professional discretion and judgment rather than standardized practices implemented with uniform fidelity.

There is great cultural, linguistic and religious diversity in Ontario, where 40 percent of students are born outside the province, and these influence the different ways that students learn as well as how this learning can be connected to their cultures. To examine how school districts responded to the many forms of diversity that exist within and beyond the student population that was diagnosed as having special educational needs, the review of ESGA examined data from four especially heterogeneous districts. Each of these districts represented specific forms of diversity. The districts, in other words, were diverse in their diversities.

A productive way to engage with such diversity, this review has shown, is neither through a focus on narrowing achievement gaps in tested literacy and numeracy nor by applying standardized strategies to districts serving very different kinds of communities. Instead, the architecture of ESGA, with its emphasis on school board authority and flexibility, has enabled boards like the four we have highlighted, to employ what we call *responsive diversity practices* that have greater potential for engaging all learners and increasing their achievement (Hughes 2012).

Responsive diversity practice has three components:

- *Demographic empathy* was employed to understand and engage with the assets of the different communities within the boards we studied. These communities had rich cultures characterized by such qualities as respect for elders, cultural identity, and deference to authority, that sometimes were valued even more than measured student achievement.
- *Inclusive achievement* was evident in change strategies such as differentiated instruction and differentiated assessment. These promoted different forms and ways of displaying achievement that extended far beyond the formats favoured in standardized tests and further, through measures like the adoption of classroom sound systems or structured programs of early literacy, also increased accessibility to higher performance on those tests.
- *Collective responsibility* was about galvanizing everyone's efforts to help all students succeed – across the divide between special education and curriculum, and also within regular classrooms, to ensure that those with diverse and special needs were fully included, differentially treated and absolutely respected because of their differences.

4. Collective Responsibility

The importance and widespread exercise of collective responsibility is indeed another important finding from the ESGA review. Survey data indicated that teachers were spending more time in professional learning communities, were looking at data together more, and were collaborating more with a range of other colleagues, especially in the case of classroom teachers on the one hand and special education resource teachers on the other.

Collective responsibility is a defining feature of many of the world's highest performing educational systems such as Finland, where all teachers feel responsible for all students' success. Ontario has long been characterized by professional cultures of collaboration, even though these were driven underground somewhat during the Second Way reforms that immediately preceded the current Liberal Government. But collective responsibility means more than just planning collaboratively or sharing good practice, for example. Collective responsibility is about having a common professional and emotional investment in, and mutual professional accountability for, the success of all students across all grade levels, subject departments and the special educational divide. This is how it was articulated in the inspiring statements of *Education for All* where collective responsibility was pinpointed as a leading priority.

As participants in this review indicated, collective responsibility is about moving from "my students" to "our students". This was evident in how classroom teachers and special education resource teachers worked together to support individual students' progress. It was also apparent in how teachers in many schools were able to witness successes or shortcomings in student progress as these were transparently displayed on data walls of all student's achievement, and in how teachers then engaged in committed and sometimes challenging conversations together about how to advance these students or "move them forward" more effectively.

5. Evidence-informed improvement

A significant component of the Global Education Reform Movement is the adoption of data-driven improvement. Data-driven improvement in education has been adopted and adapted from World Class Manufacturing in industry as a way to draw attention to defects or deficits in performance that can be rectified in real time through targeted interventions and focused team efforts. In education, this has been seen as a way to raise student achievement and narrow achievement gaps – including those between special education and "regular" student populations – and has been tied to a reform agenda of increasing equity, as well as improving standards in educational achievement.

In Ontario, data walls have been widely though not universally adopted as tools both to focus discussion in professional learning communities on individual children's progress and to raise expectations and improve instructional strategies for all students. Data warehouses have been or are being developed across the ten school boards, though the extent to which these are used by administrators and teachers within schools and school-level professional learning communities, and not only board offices, varies considerably among boards.

In general, administrators within schools and especially school boards were more sanguine than classroom teachers about the benefits of cultures of data use. Support for cultures of data use was strongest where

- professional learning communities used the data to provoke deeper conversations about the progress of particular children, conversations in which professional judgment was valued alongside statistical data;
- there was ongoing professional development on how to connect achievement data to instructional decision making;
- schools and school boards made available, used and valued a wide variety of relevant assessments, including diagnostic tools that provided real-time data about the progress of individual students;
- data systems were fully developed and widely accessible;
- time was provided for data analysis and professional collaboration.

When these conditions, cultures and supports were in place, teachers' professional learning communities were not merely data-driven; they were evidence-informed – incorporating a wide range of data and professional judgments in cultures of collective responsibility for both general instructional improvements and individual student interventions, as well as the outcomes that were intended to follow from them.

6. From thresholds to growth

The most contentious aspects of data-driven improvement concerned the use of EQAO data and the concomitant emphasis on provincially mandated threshold levels of achievement. Survey data pointed to perceptions of increasing board-level focus on EQAO data since the implementation of ESGA. On average, educators were more critical than supportive of the use of these test score data, and considerably more critical in comparison to their views of other reform components that comprised or impacted on ESGA, such as professional collaboration, differentiated instruction or assistive technologies.

The case studies revealed that administrators were more likely to support EQAO and its use as a way to concentrate the attention of schools and teachers on raising expectations for all students. Special education resource teachers also indicated that the achievement of special education students on EQAO, after proper support had been provided, pushed their classroom teacher colleagues into recognizing the potential of these students and eased the way to their agreeing to share responsibility for the progress of special education students.

At the same time, for many teachers there was considerable tension between the importance of tracking student progress and the satisfaction derived from seeing the growth in student learning that often resulted, on the one hand, and their experiences with the pressures linked to the threshold indicators based on EQAO performance, on the other. These indicators were seen as less valuable than other measures in providing useful diagnostic data. Moreover, they were regarded as inappropriate metrics for judging the performance of many students with special educational needs. Pressures associated with the "Drive to 75" also subjected more than a few teachers to intense and distracting administrative pressure to concentrate their efforts on students who would yield the easiest threshold gains, rather than on all students and, especially, those students who had the greatest needs.

7. Technology and pedagogy

Historians of education have repeatedly demonstrated how modern technologies have had little or no lasting impact on mainstream classroom practice. Contemporary theorists of innovation, meanwhile, predict that digital technologies will transform the entire nature of teaching and learning. Following the report of *Education for All*, Ontario's special education strategy has supported and encouraged the use of assistive technologies as a way to develop and demonstrate the learning and achievement of students with learning disabilities.

This study documents the growing rates of adoption of assistive technologies. The benefits of using and developing assistive technologies in ESGA have been clear and considerable. These technologies, the evidence shows, can increase participation, enhance inclusion, develop positive identity and self-confidence and raise achievement in the community of students with special educational needs.

The introduction of assistive technologies contributed to significant spikes in student achievement on the EQAO writing test in the year that additional accommodations were introduced for students with special needs taking those tests. Throughout the system, this spike was interpreted as being a legitimate result of students with special needs now having the opportunity to translate their understandings of material into test responses, as well as reflecting the impact of converging efforts and initiatives in ESGA, such as embedded professional development, evidence-informed improvement processes, differentiated instruction, and so on.

Assistive technologies have been used most successfully when they rest upon a foundation of existing best practices of teachers and students, and when they are placed in the service of the primary learning goals of the school system. Their greatest impact has been when they have been integrated into classroom teachers' practice with all students rather than just providing a form of separate support for individual students with identified special needs. In the cases where assistive technologies were regarded as separate supports, users of these technologies were more likely to be stigmatized as different or special – further excluded by the very devices that were meant to support their inclusion.

When assistive technologies were implemented in a separated rather than integrated way, funding was more likely to be discontinued, more senior teachers were less likely to be supportive, and leadership turnover exposed the innovations to budget cuts when new leaders arrived. The conclusion is that, to be effective, assistive technologies must improve the working lives of teachers as well as the learning conditions of students; increase curriculum access for all; and be integrated into all classroom teachers' instruction. In other words, to be essential and effective for some, assistive technologies had to be part of a school environment where technology in general was seen as good for all.

Assistive technologies are not a panacea for raising student achievement among special education students in a sustainable manner. However, as part of a wider effort to improve instruction for all students with the support of digital technologies, they can provide distinct benefits for students with special needs and also engage and enhance learning among all students.

8. Flexible customization

In terms of changes in curriculum and pedagogy, ESGA advanced and substantially achieved what we call *standardized personalization* – the processes of precise diagnosis, just-in-time intervention, and differentiated instruction to help all students succeed. At the same time, processes of *personalized standardization* provided customized and flexible access to the existing curriculum of literacy and numeracy, but

did not widen or deepen that curricular engagement beyond these areas of focused priority. For example, some participants felt that attention to the arts and social studies had been lost as a result of the relentlessly "serious" attention to raising achievement in tested areas of literacy and numeracy.

In this respect, ESGA has supported a provincial process of "extreme improvement" in core areas of student achievement but, like the provincial reform agenda in general, has not yet been associated with more disruptive innovations in classroom and curriculum change. It has demonstrated significant responsiveness to diversity both by introducing greater flexibility and differentiation within the standard curriculum and by attending with empathy and engagement to student diversity outside the curriculum. A key initiative for the province as it moves into its next phases of educational change is to connect with student diversity through deep personalization within the curriculum in a way that also extends beyond the core areas that are currently tested.

9. From the margins to the mainstream

In organizational terms, ESGA has comprised a remarkable, ground-breaking example of how special education reform can be not merely a sidebar to major educational change agendas, but can also prompt changes in thinking about educational reform more widely. Systemically, ESGA raises the possibility that what might be essential for effective reform in special education, may be good for reforms that affect all students and schools more widely.

ESGA demonstrates that successful educational reform can be achieved by creating momentum and cohesion among professionals distributed across boards and schools, rather than having to design, drive and deliver all changes from the political and administrative centre. It shows how collective professional responsibility among all staff is integral to effective educational change. It assigns importance to, and affirms the significance of, the local authority of school districts, their leaders, and their core teams, as agents of such change. It shows that coherence of effort can be achieved not only by centrally determined structural plans, but also by constant communication among system leaders and between these leaders and their schools. It restores the place of compelling beliefs as ways of inspiring educational change in and of themselves, rather than relegating beliefs to subsidiary importance that only come into play after systems have exerted pressure on educators to alter their actions. And it highlights how effective educational strategies can be designed so that they can recognize and appropriately respond to local diversity, rather than imposing a one-size-fits-all template of standardized change irrespective of any local differences. *Essential for Some, Good for All* can and should be a favored educational reform strategy worldwide -- one that is more consistent with the improvement strategies of other high performing systems than with the practices of top-down standardization that are typical of the current Global Educational Reform Movement.

10. *Sustainability*

When the CODE began its special educational reform strategy, believing that it had only a single year of budgetary support for the changes it would propose, it decided to try to make a short-term change that would be lasting and sustainable. Fortunately, in the end, there were three years of support.

After four years, there was slight progress in reading and substantially greater progress in writing. Although ESGA did not arrest the rising identification rates of special needs students, the achievement gap between special needs students and other students narrowed in reading and especially in writing. These gains were not confined to the year when there was a "spike" in writing results for special needs students and when test-taking accommodations had been introduced for these students.

In the period since the introduction of ESGA, survey participants reported increased knowledge and awareness of the *Education for All* document. They reported spending more time engaged in collaborative planning, embedded and ongoing professional development, discussing student work and analyzing student achievement data together. Respondents generally agreed that students with special educational needs were more likely to be mainstreamed, were participating more fully in classroom activities, were better able to advocate for themselves, and were making more rapid progress academically. Survey results, along with case study data, also indicated that, in the views of participants, there had been increased use of, as well as increased benefits accruing from, practices of differentiated instruction, tiers of

intervention, assessment for learning and assistive technologies. All these reports, it should be noted, were made several years after the initiation of these strategies and, therefore, provide credible support for the long-term and sustainable impact of ESGA on teachers' awareness, beliefs and practices.

The one-time change that CODE intended to make overall was to change the "way of doing business" in special education. With teachers reporting closer and stronger relationships between classroom-based educators and special education resource staff, and with boards forging closer connections between, and sometimes complete integration of, curriculum and special education staff, not least through the work of their core teams, the evidence is that this change was both successful and sustainable. It was also associated with reported shifts in teachers' practices and beliefs. Although not all boards progressed to the same degree or in the same way, overall progress across the substantial sample of boards in this study was demonstrable.

The continuation of ESGA itself has been apparent in the publication of newsletters, in the regional-level implementation of early literacy initiatives, and in the participation of the ten study boards in meetings about and exchanges of practice during the course of this study. But the legacy of ESGA is not so much in the project itself but in the relationships it has strengthened between special education staff and other personnel, in the persistence of changed practices and beliefs concerning differentiated instruction, and in professional collaboration that has extended far beyond the span of the funded initiative. The legacy is also evident in the distinctively different approach to educational reform it has spearheaded that is consistent with the reform practices of high-performing jurisdictions and that serves as one model for reformers elsewhere to learn from. What will be required to make the work of ESGA truly sustainable is a matter for the report's recommendations, to which we turn next.

Recommendations

1. *Continue the legacy*

Important lessons have been learned from ESGA and their legacy should be actively promoted and perpetuated: differentiating both instruction and assessment; integrating classroom and curriculum responsibilities with those in special education throughout the system; strengthening professional learning communities and the sense of collective responsibility among all school staff; effectively yet judiciously integrating technology into all classroom settings; and making evidence-informed rather than merely data-driven decisions about student needs and targeted instructional improvements.

2. *Restore the role of beliefs*

At every level, including and also beyond educators who are specifically concerned with special education, it is important to recognize and restore the role of educators' beliefs as significant contributors to educational improvement. Inspiring educational leadership can change or modify beliefs regarding what can be expected from the achievement of all students. The role of beliefs can be expressed in assigning value to reflective rather than merely technical coaching; it can be made more evident by involving professional educators from classroom teachers to school board teams in developing and not just delivering effective reform; and it can be brought to life in the creation of stimulating professional learning communities, especially in terms of promoting thoughtful rather than reactive interpretations and uses of student achievement data.

3. *Promote mindful uses of technology*

Educators increasingly understand that technology is essential for some students to access the curriculum. Effective adoption of assistive technologies for students with special educational needs requires constructive use of digital and other technologies in all classrooms within a school, so that assistive technologies do not become isolated and, thus, more easily discarded. This, in turn, calls for development and training in mindful uses of technology for all teachers and leaders. On the one hand, mindful teaching and leading today means being comfortable with digital technologies, knowledgeable about how students can use and misuse them, and capable of integrating them into everyday practice. It also means being open to the ways that technology can genuinely enhance learning for all students. On the other hand, mindful teaching with technology requires being judicious in its use within a mixed economy of classroom pedagogies, and it means educating and protecting children against the damaging effects of technology such as short-term

thinking, proneness to distraction, and so on, as well as promoting its benefits.

One of the drawbacks in supporting the use of new technologies is that staff development in this area is usually carried out by enthusiasts. Mindful uses of technology that create a supportive environment for using assistive technology could benefit from the involvement in professional development teams of educators who can offer a critical perspective on some aspects of technology, and also of professionals with special education expertise, alongside the staff developers who are already persuaded of the value of digital tools.

4. Inquire into rising rates of identification

Despite its other successes, ESGA did not succeed in reversing the upward trend of identification of individual students with special educational needs. This could mean that the quest to develop more effective differentiated instruction in order to reduce identification rates may not have been successful, may not have had the time to be successful, or may have forestalled even higher rates of identification. At the same time, increased (and costly) rates of identification may be attributable to other factors such as greater parental awareness and advocacy, the increased sophistication and profusion of diagnostic testing processes, or changing circumstances that affect child development in the wider society. The reasons for increased identification in Ontario and elsewhere constitute a serious issue that deserves systematic research that examines and responds to all potential causal factors.

5. *Shift the assessment and reporting emphasis from thresholds to growth*.

Although administrators often welcome the leverage afforded to them by threshold measures of student performance such as EQAO, teachers frequently feel compelled to use questionable strategies to raise reported achievement, such as concentrating on students closest to the threshold – even when policy leaders explicitly advise against doing so. This phenomenon is certainly not particular to Ontario but is common to all systems that assign numerical thresholds to performance targets. Growth measures of performance that assess how far and how fast students move from one level to the next are more valued by teachers, are seen as fairer to students (particularly those with special needs), and are less likely to introduce "perverse incentives" to meet the threshold requirements by inauthentic means. Reporting on growth also provides parents and the public at large with a richer picture of school and system performance. The evidence of this study suggests that it is now time for the province to move from exclusively threshold-based to more growth-based measures of system-wide testing and reporting.

6. Increase leadership capacity in managing evidence-informed improvement strategies.

Many school and system leaders in this study demonstrated high capability in leading effective professional discussions about student learning and achievement and how to improve it, based on a wide range of statistical data and other kinds of information. This was not true of all leaders, however. Some were unable to share voluminous amounts of centralized data with their colleagues in schools. In some schools, leaders overemphasized the statistical data, and EQAO results in particular, and seemed unable or unwilling to put faces to the data through professional knowledge of, and relationships with, students.

Then there were leaders who were in a great quandary when they saw that teachers had achieved significant growth with their students yet were still falling short of the provincial thresholds for proficiency. They seemed unsure and frustrated about how to deal with the dilemma of whether to recognize their teachers' accomplishments or to exert further pressure on them. All this suggests that more and better leadership development for principals and school system administrators is needed to help them spearhead evidence-informed, rather than merely data-driven, professional learning communities. Such professional development is likely to be more effective if it consists not only of occasional workshops but also of high-level, at-the-elbow assistance from leaders who are already accomplished in this area.

7. Increase leadership stability

We have seen that effective professional learning communities and successful integration of assistive technologies require high trust and knowledge of the school culture and, therefore, a high degree of leadership stability. One threat to the sustained impact

of ESGA was high leadership turnover or instability, resulting in new principals who were not committed to the programs of their predecessors, or the loss of a critical mass when large numbers of teacher leaders were promoted out of their schools to become coaches and trainers for their board or the province. Many factors affect system stability and are worthy of systematic attention and review. Some possible remedies include reducing the frequency of regularized principal rotation between schools; developing more genuine sharing of leadership authority between principals and teacher leaders so that a professional community or program can survive the departure of an outstanding principal or several teacher leaders; and reducing inter-board competition in the hiring of principals in the same geographical area across sector boundaries (Public/Catholic/Franco-Ontarian).

8. Renew school board authority: lead more from the middle

The school boards in this study were not just deliverers of centralized policies. Individually and collectively, in conjunction with the support and monitoring of former school board leaders and the CODE leadership team, they were active agents and the principal dynamos of educational changes that benefitted all students. Through the flexible design of ESGA, the boards and their core teams were empowered to respond to local diversity by leading from the middle. There are many other areas in need of educational change that would benefit from the increased exercise of school board authority and autonomy. This argues for the need to halt or reverse the worldwide trend in GERM toward centralization of `authority for educational management and reform. Rather, we should strive to preserve local control over those issues where boards have the greatest knowledge, democratic representation and professional authority. This is what political scientists call the principle of subsidiarity. It raises troubling questions about trends to mandate school board mergers to the point where there may be both a serious loss of local authority and the emergence of weaker links to individual schools. Leading from the middle at the board and provincial level can be a way to combine expertise with ownership and authority in the leadership of change.

9. Promote greater school board co-operation

The achievements of *Essential for Some, Good for All* resulted not simply from individual school boards acting autonomously, but from boards forming and exploiting collaborative networks. This occurred within a province-wide culture of collective commitment of board leaders to the principles of EfA, triggered in part by a funding strategy that energized a large number of the smaller boards that comprise the majority of boards in the province and, therefore, constituted a critical mass of the province's system leaders. The value of regional professional development was stressed in various parts of the study's qualitative data and in ESGA's own interim evaluations. At the same time, ESGA occasionally faltered when geographically contiguous boards from different sectors actively competed for students, teachers and principals and were, therefore, hesitant about, or even resistant to, sharing practices with each other. One answer to these instances of inter-board competition may be enforced mergers but, as we have seen, this can risk the loss of local flexibility and authority. Another alternative is to promote wider collaboration not only over shared facilities and resources but also over programs and reform knowledge. Based on its overall successes within this project, one organization that could take a leading role in promoting stronger inter-board collaboration is the Council of Ontario Directors of Education.

10. Widen engagement; deepen personalization

The practices of tracking student progress and differentiated instruction that have been promoted through and beyond ESGA, have contributed significantly to capacity of boards and their schools to respond to the various types of diversity in their communities. In turn, this has resulted in greater personalization, or flexible delivery, of instruction in the core areas of literacy and numeracy. With the province having now come close to reaching its proficiency targets in these areas, the time may be ripe, in the context of a knowledge-driven economy, to move to the next level of change by increasing the attention devoted to other areas of the curriculum such as social studies and the arts. These subjects have the potential to engage an even wider range of students through deeply personalized connections to their cultures and their life projects that can also magnify the impact of more flexible approaches to instruction and assessment.

This report has been a review of a strategy to support students with special educational needs in ways that provide benefit to all students. This means, in the title of this report, that in policy and elsewhere, we must be leading not for most of our students, or for the average, or even the majority, but for all of them. And this in turn requires leading the development of strategies of curriculum, pedagogy, tracking, intervention, assessment and technology provision that are inclusive of all students and their teachers. Leading for all cannot by undertaken by a few on behalf of everyone else. Leading for all must also entail leading by all and with all – special education and curriculum staff working together in boards and in schools; district leaders moving change forward from the middle as well as central policy makers setting directions at the top; and teacher leaders playing their part in coaching and mentoring, building collective responsibility, and serving all students together.

Glossary of terms

The Comprehension Attitude Strategies Interests (CASI):

The Comprehension Attitude Strategies Interests assessment is administered to students in grades 4 to 8. The purpose is to diagnose student strengths and learning needs related to the Ontario reading expectations through age-appropriate, field-validated reading passages. [299]

Developmental Reading Assessment (DRA):

DRA helps educators identify every student's reading ability, document progress, and tailor teaching methods to drive effective reading instruction (grades K-8).[300]

Dynamic Indicators of Basic Early Literacy Skills (DIBELS):

Set of procedures and measures for assessing the acquisition of a set of K-6 literacy skills, such as phonemic awareness, alphabetic principle, accuracy and fluency, vocabulary, and comprehension.[301]

Ontario Writing Assessment (OWA):

Provides on-demand writing tasks specific for each grade level (K through 8) and exemplars (or anchors) of student work. There are three tasks per grade to be and the assessment has to be implemented at the beginning, middle and end of the school year.[302]

PM Benchmarks:

Assess students' instructional and independent reading levels through leveled fiction and non-fiction texts in range of levels up to reading age 12.[303]

Quick Comprehension Assessment (QCA):

Assesses students' comprehension skills, and helps teachers identify instructional needs quickly and efficiently, while tracking student achievement and growth.[304]

Web-Based Teaching Tool (WBTT):

The Web Based Teaching Tool (WBTT) is a bilingual, universal, online program based on the Dynamic Screening and Intervention Model (DSIM) that has been used by primary teachers (JK - Grade 1) since 2003 for early screening and intervention.[305]

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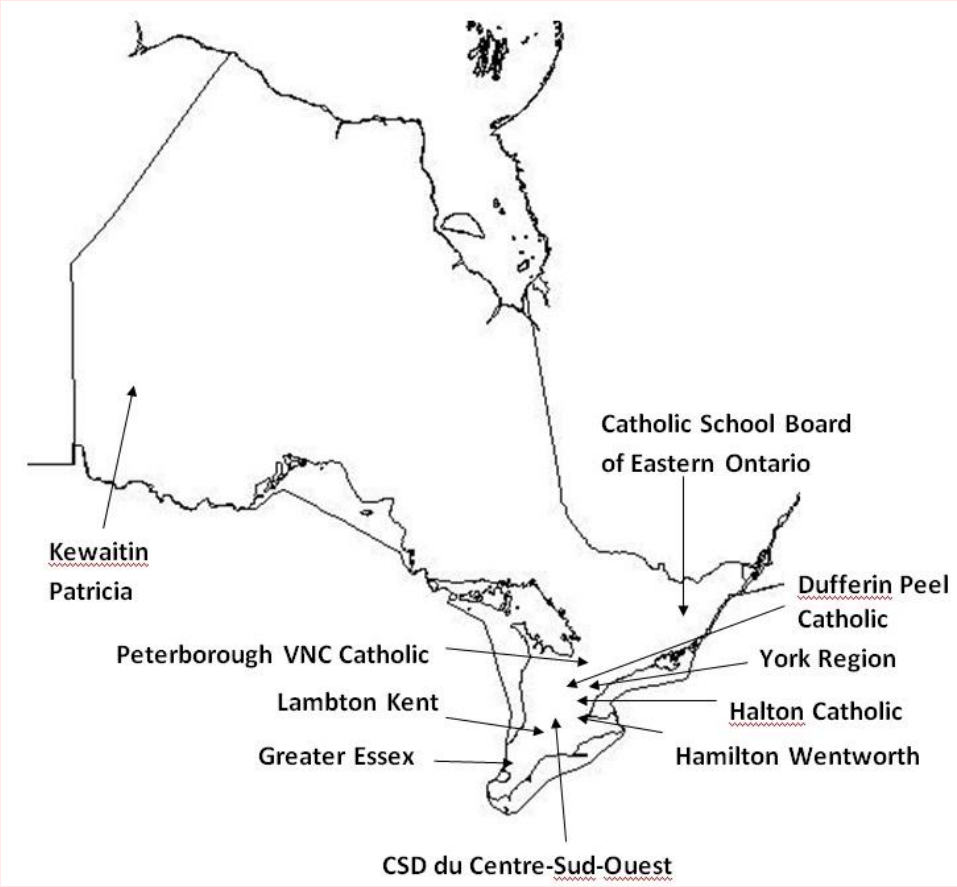
Appendix 1. Representativeness of Study Boards



- Study Boards representativeness: Reading in the public boards

Descriptive Statistics

English/ French	Catholic/ Public	Project Board (=1)		N	Min.	Max.	Mean	Std. Deviation
English Board	Public	Non-Study Boards	Percentage of students with overall achievement in Reading at Levels 3 and 4 (2004-05)	26	.47	.65	.58	.05
			Percentage of students with overall achievement in Reading at Levels 3 and 4 (2008-09)	26	.41	.66	.57	.05
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	26	-.11	.13	-.01	.05
		Study Boards	Percentage of students with overall achievement in Reading at Levels 3 and 4 (2004-05)	5	.54	.65	.57	.05
			Percentage of students with overall achievement in Reading at Levels 3 and 4 (2008-09)	5	.43	.69	.59	.10
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	5	-.11	.08	.01	.07

- Study Boards representativeness: Reading in the Catholic boards

Descriptive Statistics

English/ French	Catholic/ Public	Project Board (=1)		N	Min.	Max.	Mean	Std. Deviation
English	Catholic	Non-Study Boards	Percentage of students with overall achievement in Reading at Levels 3 and 4 (2004-05)	25	.48	.79	.60	.06
			Percentage of students with overall achievement in Reading at Levels 3 and 4 (2008-09)	25	.51	.72	.63	.05
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	25	-.08	.19	.02	.06
		Study Boards	Percentage of students with overall achievement in Reading at Levels 3 and 4 (2004-05)	4	.58	.66	.61	.04
			Percentage of students with overall achievement in Reading at Levels 3 and 4 (2008-09)	4	.62	.75	.66	.06
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	4	.03	.09	.05	.03

- Study Boards representativeness: Reading in the Francophone boards

Among the public boards, the difference of the reading score increased 14% from 2004-05 to 2008-09 in Non-Study Boards (n=11) while the difference of the reading score increased 19% from 2004-05 to 2008-09 in Study Boards (n=1).

Descriptive Statistics

English or French	Project Board (=1)		N	Min.	Max.	Mean	Std. Deviation
French Board	Non-Study	Percentage of students with overall achievement in Reading at Levels 3 and 4 (2004-05)	11	.40	.56	.47	.04
		Percentage of students with overall achievement in Reading at Levels 3 and 4 (2008-09)	11	.48	.76	.61	.07
		Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	11	.02	.23	.14	.06
	Study	Percentage of students with overall achievement in Reading at Levels 3 and 4 (2004-05)	1	.46	.46	.46	.
		Percentage of students with overall achievement in Reading at Levels 3 and 4 (2008-09)	1	.65	.65	.65	.
		Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	1	.19	.19	.19	.

- Study Boards representativeness: Writing in the public boards

Descriptive Statistics

English or French	Catholic or Public	CODE Project Board (=1)		N	Min.	Max.	Mean	Std. Deviation
English Board	Public	Non-Study Boards	Percentage of students with overall achievement in Writing at Levels 3 and 4 (2004-05)	26	.44	.64	.56	.05
			Percentage of students with overall achievement in Writing at Levels 3 and 4 (2008-09)	26	.40	.71	.62	.06
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	26	-.09	.16	.06	.05
		Study Boards	Percentage of students with overall achievement in Writing at Levels 3 and 4 (2004-05)	5	.53	.70	.58	.07
			Percentage of students with overall achievement in Writing at Levels 3 and 4 (2008-09)	5	.49	.78	.65	.11
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	5	-.04	.18	.07	.08

- Study Boards representativeness: Writing in the Catholic boards

Descriptive Statistics

English or French	Catholic or Public	CODE Project Board (=1)		N	Min.	Max.	Mean	Std. Deviation
English Board	Catholic	Other Boards	Percentage of students with overall achievement in Writing at Levels 3 and 4 (2004-05)	25	.46	.73	.61	.06
			Percentage of students with overall achievement in Writing at Levels 3 and 4 (2008-09)	25	.58	.82	.70	.07
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	25	-.02	.33	.08	.07
		CODE Boards	Percentage of students with overall achievement in Writing at Levels 3 and 4 (2004-05)	4	.57	.71	.63	.06
			Percentage of students with overall achievement in Writing at Levels 3 and 4 (2008-09)	4	.69	.81	.73	.06
			Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	4	.05	.12	.10	.03

- Study Boards representativeness: Writing score in the Francophone boards

Among Francophone Boards, on average, the difference of the writing score from 2004-05 to 2008-09 in Non-Study Boards (n=11) is 5%, and the difference of the writing score from 2004-05 to 2008-09 in Study Boards (n=1) is 8%.

Descriptive Statistics

English or French	CODE Project Board (=1)		N	Min.	Max.	Mean	Std. Deviation
French Board	Non-Study Boards	Percentage of students with overall achievement in Writing at Levels 3 and 4 (2004-05)	11	.56	.75	.67	.06
		Percentage of students with overall achievement in Writing at Levels 3 and 4 (2008-09)	11	.57	.88	.73	.08
		Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	11	-.18	.13	.05	.09
	Study Boards	Percentage of students with overall achievement in Writing at Levels 3 and 4 (2004-05)	1	.65	.65	.65	.
		Percentage of students with overall achievement in Writing at Levels 3 and 4 (2008-09)	1	.73	.73	.73	.
		Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	1	.08	.08	.08	.

Appendix 2. Interview protocol.

The following questions are the framework for the qualitative interviews in each Board during site visits:

Overall questions

1. What name(s) are ESGA known by in your school/Board?
2. What have been the long and short-term purposes and goals of the project?
3. How did ESGA start in your school/Board? Who initiated it?
4. Reflecting on your school/Board, explain how the ESGA project(s) evolved over time, starting in the first year, and moving forward in years two, three, and beyond. (Encourage interviewee to be descriptive here).
5. Who has been pivotal in your project's development and implementation over the period and what was it about their actions/role that was critical?
6. Describe the project(s) current status. (E.g. Is it moving forward, ticking over, embedded in other areas?) What are the key parts and how do the components fit together?
7. What are the project(s) strengths and limitations?
8. How is ESGA supported and/or impeded by the province's approach to special education specifically and educational reform in general?
9. What kind of support and/or direction has the project received from: a) the CODE leadership team? b) the CODE leadership team on the Board? c) Other?
10. What was your organization's approach to special education before CODE? Is there other special education provision at present that is distinct from CODE?

Individual Questions

11. What's your role in the project and how has it changed over time?
12. With whom have you directly worked with on the project?
13. Can you describe an event or incident that for you captures what this project is really like in terms of:
    a. Relationships among the adults involved?
    b. Relationships with, and impact on the children?
14. What do you view as the project's greatest achievement?
15. Do you see ESGA having any wider impact in the Board or in the province?
16. What impact would you like ESGA to have province-wide?
17. Knowing what you know today, what would you change about your project, if given the chance to start again?

Appendix 3. CODE Teacher Survey: Example of Board 6

Introduction

Greetings! We are Andy Hargreaves and Henry Braun, professors in the Lynch School of Education at Boston College in Chestnut Hill, Massachusetts.

In April 2009 we were asked by the Council of Directors of Education (CODE) to undertake a review of a province-wide initiative in special education that began in the 2004-05 academic year.

In the spring of 2009, ten boards, including yours, agreed to participate in this 28 month review. We have now visited each board, met with staff at the board offices and visited two schools in each case. We have collected very useful information. In order to obtain a fuller picture of the changes in the board it is essential that we hear from administrators and staff at a greater number of schools.

Since it is impossible for us to directly visit more schools, we are distributing this survey with the aims of hearing your opinions. A report that is more useful both to individual boards and to the province as a whole will result.

We are very interested in your experiences concerning the education of children with special needs within your board and in the changes and interventions that affect their education. The questions that follow are designed to give you an opportunity to offer your perspective on what has been happening in the board over the last six years as a result of the initiatives that have been implemented. There are no right or wrong answers. We only ask that you respond to all the questions with your own views. Your responses are completely anonymous and will be only reported in the aggregate. Thank you in advance for your participation!

Consent Form

You are being asked to participate in a research study titled "*Evaluation of Essential for Some, Good for All*."

You were selected to participate in this project because you are a teacher, administrator, paraprofessional or other employee in the board whose input is valuable to the scope of this study.

There are seven purposes of this study:

1. to determine the unifying purposes of CODE and how these have been defined and realized within and across projects;
2. to delineate the explicit and implicit design features of CODE, the elements that comprise it and their interrelationships;
3. to understand how CODE projects began and how they changed over time within and across boards;
4. to identify and articulate the mutual impact and effects of CODE projects on each other;
5. to chart the mutual impact and effects of CODE initiatives on other policies and practices within the participating boards and in relation to provincial educational emphases;
6. to elicit the forms and actions of leadership teams that have been significant in the development and impact of CODE projects; and
7. to uncover the plans and prospects for the sustainability of CODE and the purposes it is designed to achieve.

This online survey represents one important aspect of our study. The survey should take you approximately 30 minutes to complete.

Although there are no direct benefits to you as an individual, the responses from you and your colleagues will yield useful information to your school Board and province. You will not be compensated for the time you take to complete this survey. There are no costs to you associated with your participation.

The Principal Investigators will exert all reasonable efforts to keep your responses and your identity will remain confidential. One risk in surveys is the concern of self-identification. We are looking for general trends found across experiences, and they want to reassure you that it is not one individual's answers but rather trends that we are interested in. Risk will be minimized through scrupulous adherence to informed consent protocols and appropriate monitoring of collected data. Please note that regulatory agencies, the Boston College Institutional Review Board, and Boston College internal auditors may review research records.

You participation is voluntary. If you choose not to participate there are no consequences to you. You are free to withdraw or skip questions for any reason. There are no penalties for withdrawing or skipping questions.

If you have questions or concerns concerning this research you may contact the Principal Investigator at [telephone number and email address]. If you have questions about your rights as a research participant, you may contact the Office for Research Protections, Boston College, at 617-552-4778 or irb@bc.edu. This study was reviewed by the Boston College Institutional Review Board and its approval was granted on July 1, 2009.

If you agree to the statements above and agree to participate in this study, please press the "Consent Given" button below.

You may recall, about five years ago, <Board name> launched a project with CODE funding on <Name of CODE project >. This initiative sought to improve student achievement through <CODE strategy>. Additionally, this project encouraged the use of <name of CODE strategy>.

A number of questions in the following survey will concern your perceptions of this initiative and the potential legacy and impact on student learning that has resulted from it. Please click the arrow in the bottom right corner of your screen to proceed to the survey questions.

Q1. At which school do you currently teach?

(1) Name of school 1
(2) Name of school 2
(3) Name of school 3
(4) Name of school 4
(5) Name of school 5
(6) Name of school 6
(7) Name of school 7
(8) Name of school 8
(9) Other (please provide name): _____

Q2. How many years have you taught in your current school?

(1) Less than one year
(2) One to three years
(3) Four to six years
(4) Six to ten years
(5) More than ten years

Q3. How many years have you taught in your current board?

(1) Less than one year
(2) One to three years

(3) Four to six years
(4) Six to ten years
(5) More than ten years

Q4. How many years have you been working in the field of education?
(1) Less than one year
(2) One to three years
(3) Four to six years
(4) Six to ten years
(5) More than ten years

Q5. Which of the following certificates have you completed? (Please check all that apply)
(1) Special Education Part 1
(2) Special Education Part 2
(3) Specialist (please describe) _____
(4) None of the Above

Q6. What is your current job title?
(1) Classroom teacher
(2) SERT
(3) Resource teacher (i.e., speech therapist, etc.)
(4) Other _____

Q7. Have you held a previous position within the last six years (2004-2010 time period)?

(1) Yes
(2) No

Answer to Q7: If Have you held a previous position within the last six years, Yes Is Selected

Q8. What was your previous position?

(1) Classroom Teacher
(2) SERT
(3) Resource teacher (i.e., speech therapist, etc.)
(4) Other _____

Q9. Which grade or grades do you currently work with? (Please check all that apply)

☐JK
☐SK
☐Grade 1
☐Grade 2
☐Grade 3
☐Grade 4
☐Grade 5
☐Grade 6
☐Grade 7
☐Grade 8
☐Grade 9
☐Grade 10
☐Grade 11
☐Grade 12

General instruction

The survey proper consists of a set of statements. Comparisons should be made between the situation in the past (say 5 or 6 years ago and today).

To the best of your ability, when answering questions please reflect back on the way things were prior to <CODE Project Name> compared to how things are within your board today. Your response should indicate the extent to which you agree or disagree with the statements.

Q10. What is the extent of your familiarity with the document, *Education for All*?

(1) Very Familiar
(2) Somewhat Familiar
(3) Not Very Familiar
(4) Not at all Familiar

Q11. The beliefs and principles stated in the *Education for All* document align with my professional philosophy.

(1) Strongly Disagree
(2) Disagree
(3) Neither Agree nor Disagree
(4) Agree
(5) Strongly Agree
(6) Not Applicable

Q12. The beliefs and principles stated in the Education for All document largely align with the professional philosophies of the colleagues in my school.

(1) Strongly Disagree
(2) Disagree
(3) Neither Agree nor Disagree
(4) Agree
(5) Strongly Agree
(6) Not Applicable

Q13. I am familiar with the <name of CODE project > initiative in my board.

(1) Strongly Disagree
(2) Disagree
(3) Neither Agree nor Disagree
(4) Agree
(5) Strongly Agree

Q14. Indicate the extent to which you agree or disagree with the following statements.

Since the introduction of <Name of CODE project> ...

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
1. the principal and vice-principal provide greater instructional leadership for the school.						
2. among administrators and staff there is a greater sense of collective responsibility for students with special needs' learning and/or achievement.						
3. there is better collaboration among classroom teachers, special education resource teachers, literacy coaches, and other professionals in meeting the needs of students with special needs and other at-risk students.						
4. there is greater collaboration across grades and departments.						

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
5. teachers recognize the accomplishments of all students rather than only those who accomplish the most.						
6. the progress of students with special needs is monitored through a variety of methods of assessment and evaluation.						
7. challenging and attainable standards for achievement are set and maintained for students with special needs.						

Q15. Since the introduction of <Name of CODE project>, I'm more likely to engage in the following with my colleagues: (Please check all that apply)

- ☐Co-create assignments
- ☐Co-plan lessons
- ☐Observe a peer teaching
- ☐Give a peer feedback
- ☐Take suggestions from a peer on my teaching
- ☐Give unsolicited suggestions to a peer
- ☐Examine student work
- ☐Discuss data and student achievement results
- ☐Help one another using classroom technology
- ☐Other _____

Q16. The following five statements refer to the assessments that you use in your classroom, such as the Developmental Reading Assessment (DRA). Please indicate the extent to which you agree or disagree with the following statements.

Since the introduction of <Name of CODE project> ...

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
1. my school makes better use of this assessment information to guide instruction.						
2. I have the training and support I need to use this information effectively in my own work.						
3. I feel the need for more professional development around the use of assessment results.						
4. in relation to the use of data, the professional						

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
development that I have received has been more useful.						
5. there is now too much attention to data and not enough to professional judgment.						

Q17. Please indicate the extent to which you agree or disagree with the following statements. Since the introduction of <Name of CODE project> ...

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
(1) EQAO results generally provide an accurate description of the academic competencies of the students in my school.						
(2) Board concerns with EQAO results are driving too much of what we do day-to-day.						
(3) EQAO results are generally not an appropriate measure of what students with special needs know and can do.						
(4) the focus on achieving EQAO results at or above the provincial standard (i.e., Levels 3 or 4) influences me to target my efforts on students who need my help the most.						
(5) school efforts driven by EQAO results are distracting me from working with students who need my help the most.						

Q18. Indicate the extent to which you agree or disagree with the following statements.

Since the introduction of <CODE project title>, students with special needs...

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
1. are typically mainstreamed into regular classrooms.						

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
2. now experience fewer "withdrawals."						
3. participate more fully in classroom academic activities.						
4. are better integrated into the social life of the classroom and the school.						
5. are more likely to receive intervention services in a timely fashion.						
6. are better able to advocate for themselves.						
7. are experiencing greater gains in social and emotional development.						
8. are making more rapid progress on key academic indicators.						

Q19. Please indicate the extent to which you agree with the following.

Students with special needs have benefited from the introduction of the following tools or strategies:

Strongly Disagree (1) Disagree (2) Neither Agree nor Disagree (3)	Agree (4) Strongly Agree (5) Not Applicable (6)					
	(1)	(2)	(3)	(4)	(5)	(6)
1. Assistive technologies (e.g. FM systems, ELMOs, computers)						
2. Differentiated instruction						
3. Tiered intervention						
4. Universal Design for Learning						
5. Assessment for learning						
6. Use of locally developed assessments <add name of local assessments if relevant>						
7. Use of externally developed assessments (e.g. PM Benchmarks, CASI, and OWA)						
8. Use of new curricula or pedagogical strategies						

Q20. Since the introduction of <Name of CODE project>, are you now engaged in different kinds of interactions and activities with your colleagues?

(1) Yes
(2) No

Please explain your answer to the previous question.

Open-ended questions

Please answer the following eight questions to the best of your ability. If the question is not applicable to your experiences, please explain.

Q21. Describe an example of changes in your school that have occurred since the introduction of <name of CODE project> that have had generally positive effects on students.

Q22. Describe an example of changes in your school that have occurred since the introduction of <name of CODE project> that have generally not been effective in supporting student learning.

Q23. Describe an example of changes in your school that have occurred since the introduction of <Name of CODE project> that have had positive effects on you and your colleagues.

Q24. Describe an example of changes in your school that have occurred since the introduction of <Name of CODE project> that have generally not been effective in advancing the work of you and your colleagues.

Q25. To what extent does the Board-level focus on EQAO results influence how you teach students with special needs?

Q26. Generally, would you say that the various initiatives implemented in your school have complemented each other or not? Please describe.

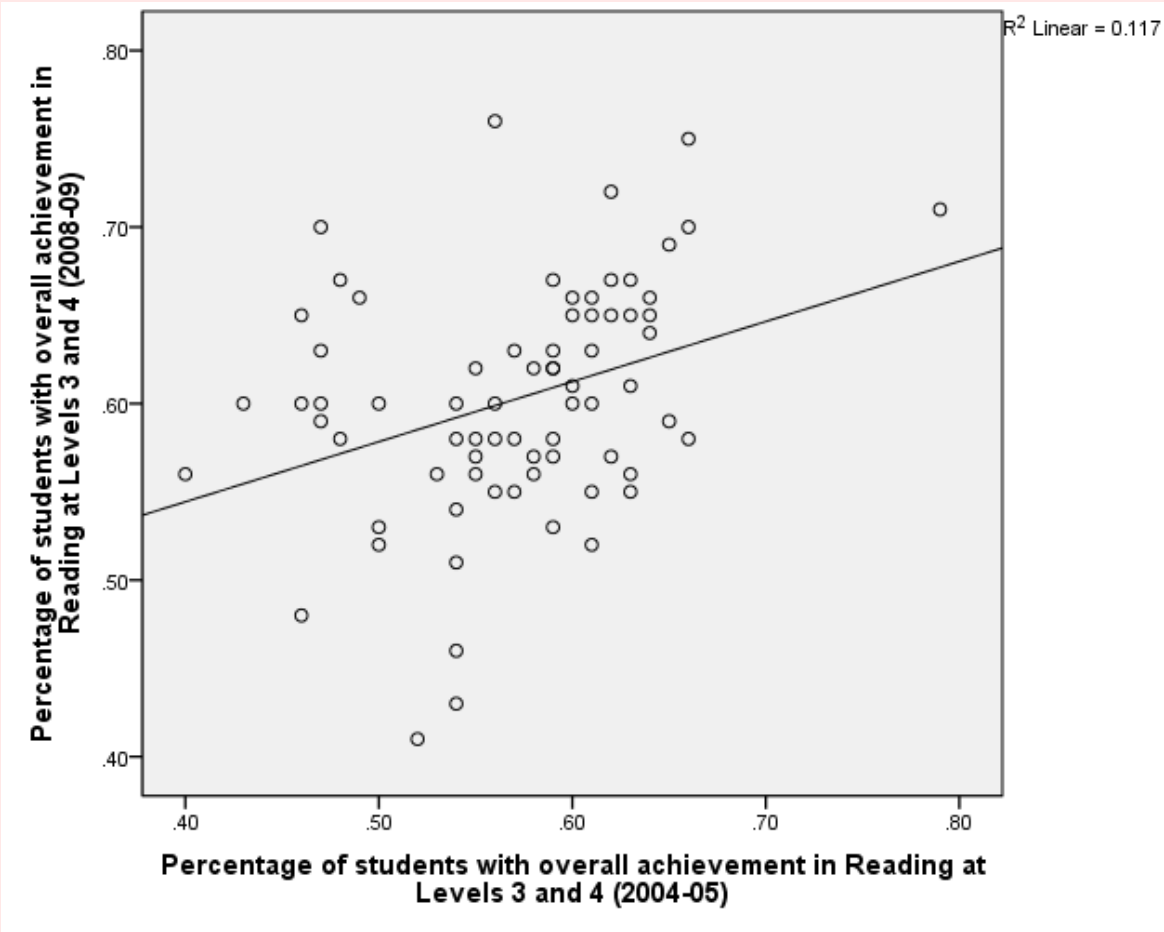
This completes your participation in the survey. Thank you so much for your time!

Appendix 4. EQAO Results

[Panel 4.1] Reading results of all students among the 72 boards

Descriptive Statistics: Reading

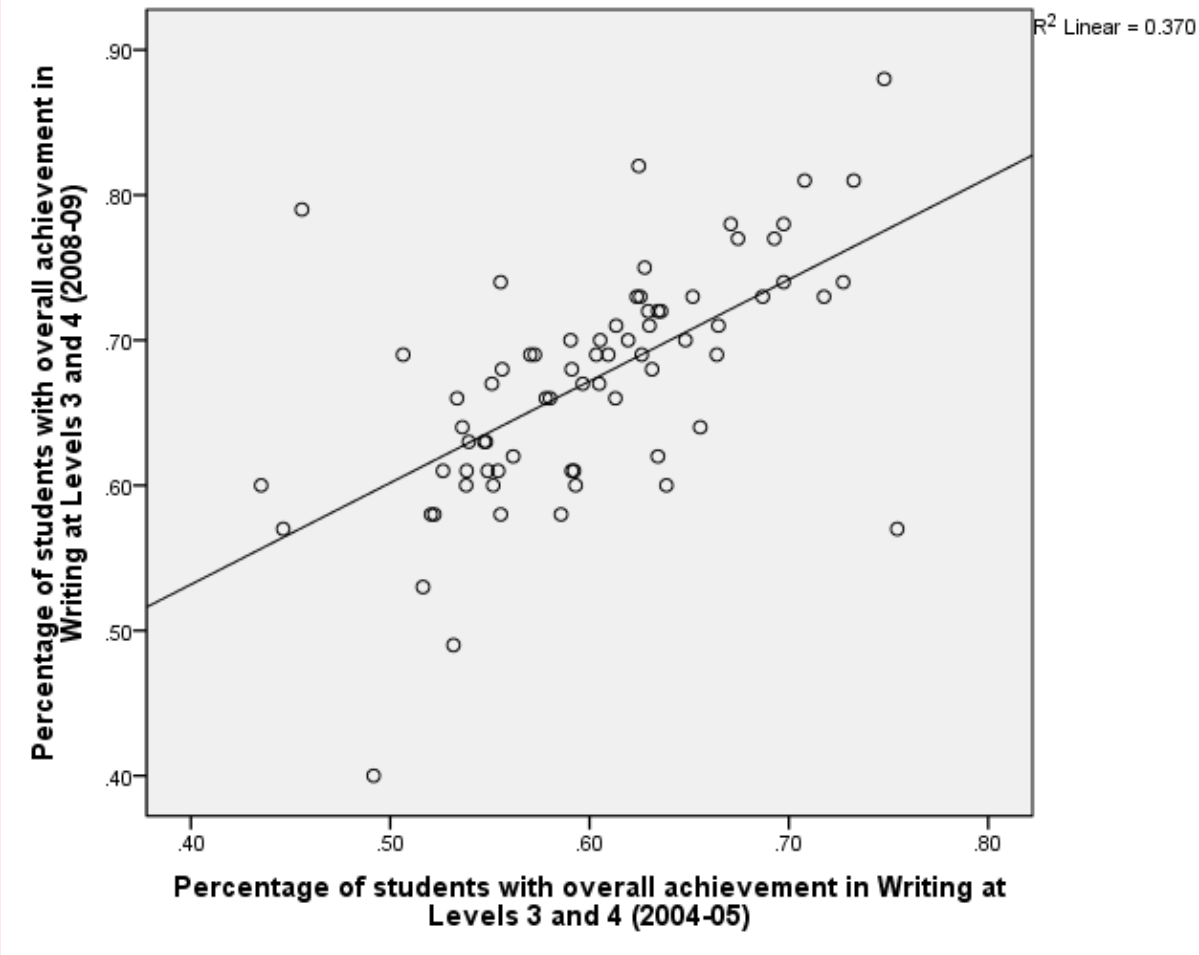
	N	Min.	Max.	Mean	Std. Deviation
Percentage of students with overall achievement in Reading at Levels 3 and 4 (2004-05)	72	.40	.79	.55	.07
Percentage of students with overall achievement in Reading at Levels 3 and 4 (2008-09)	72	.41	.76	.60	.07
Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	72	-.11	.23	.03	.08
Valid N (listwise)	72				



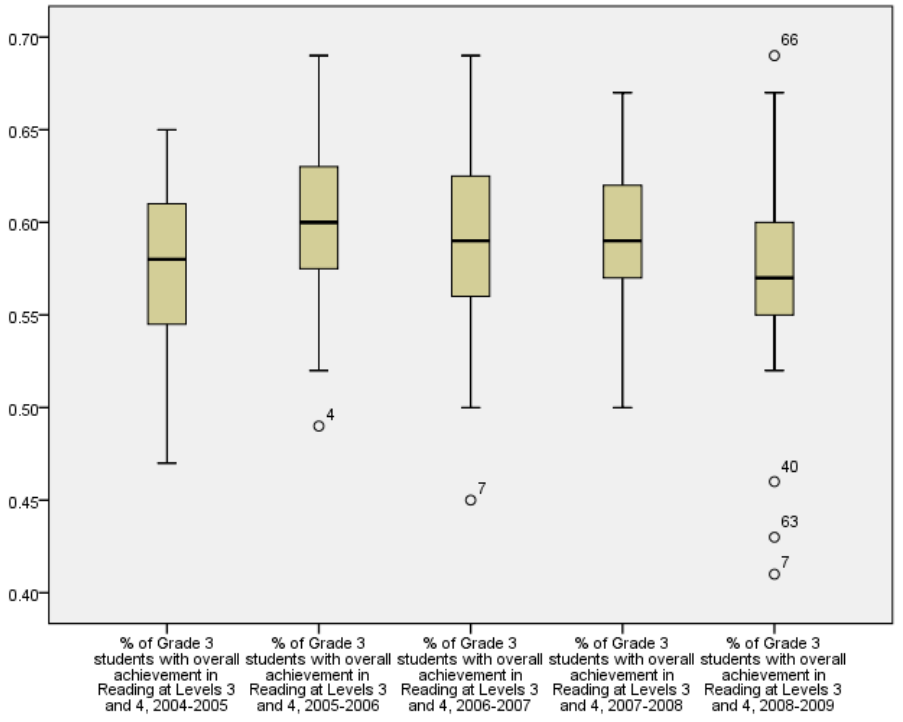
[Panel 4.2] Writing results of all students among the 72 boards

Descriptive Statistics: Writing

	N	Min.	Max.	Mean	Std. Deviation
Percentage of students with overall achievement in Writing at Levels 3 and 4 (2004-05)	72	.44	.75	.60	.07
Percentage of students with overall achievement in Writing at Levels 3 and 4 (2008-09)	72	.40	.88	.67	.08
Difference in the percentage of all students performing at L3 or L4, 2004-05 to 2008-09	72	-.18	.33	.07	.07
Valid N (listwise)	72				



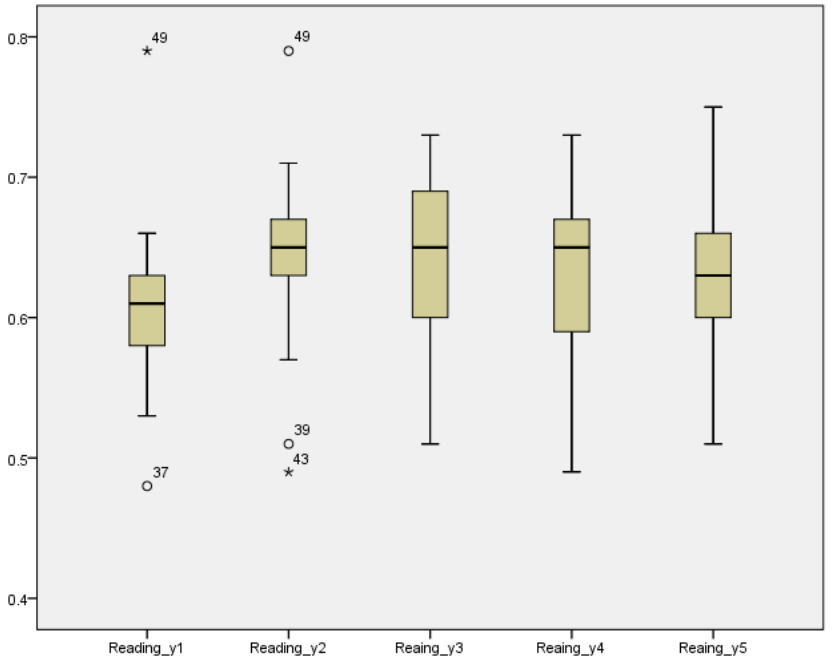
[Panel 4.3] Reading results of all students among the Public boards



Statistics

		% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2004-2005	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2005-2006	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2006-2007	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2007-2008	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2008-2009
N	Valid	31	31	31	31	31
	Missing	0	0	0	0	0
Mean		.5755	.5994	.5874	.5874	.5703
Median		.5800	.6000	.5900	.5900	.5700
Std. Deviation		.04418	.04281	.05341	.04479	.06264
Min.		.47	.49	.45	.50	.41
Max.		.65	.69	.69	.67	.69
Percentiles	25	.5400	.5700	.5600	.5700	.5500
	50	.5800	.6000	.5900	.5900	.5700
	75	.6100	.6300	.6300	.6200	.6000

[Panel 4.4] Reading results of all students among the Catholic boards



Statistics

		% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2004-2005	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2005-2006	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2006-2007	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2007-2008	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2008-2009
N	Valid	29	29	29	29	29
	Missing	0	0	0	0	0
Mean		.6048	.6434	.6410	.6321	.6300
Median		.6100	.6500	.6500	.6500	.6300
Std. Deviation		.05642	.05659	.05809	.05577	.05555
Min.		.48	.49	.51	.49	.51
Max.		.79	.79	.73	.73	.75
Percentiles	25	.5700	.6250	.5950	.5850	.5900
	50	.6100	.6500	.6500	.6500	.6300
	75	.6350	.6700	.6900	.6700	.6650

[Panel 4.5] Reading results of all students among the French Boards

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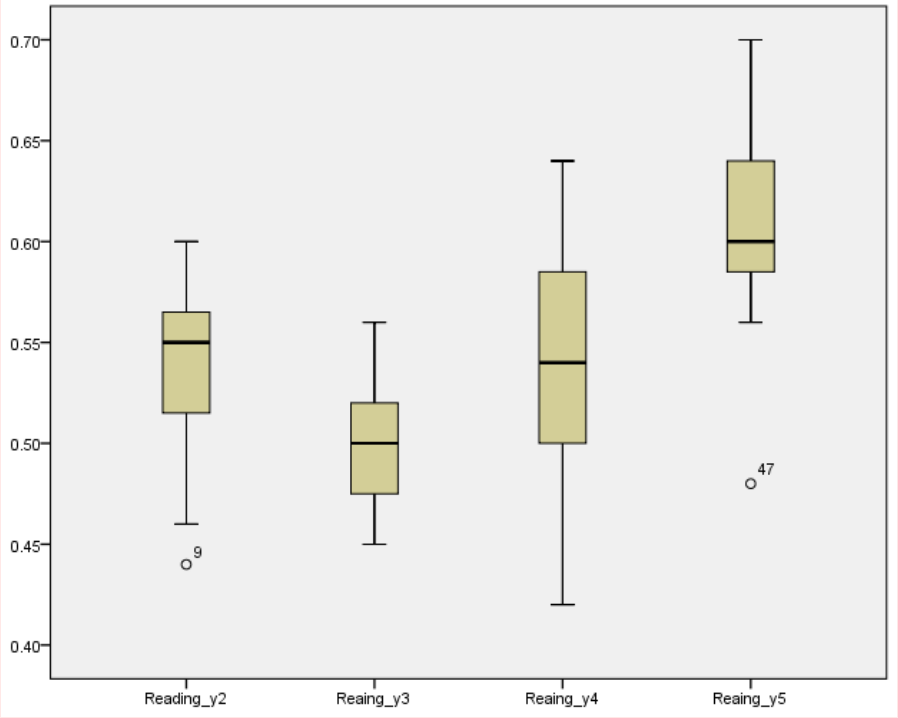
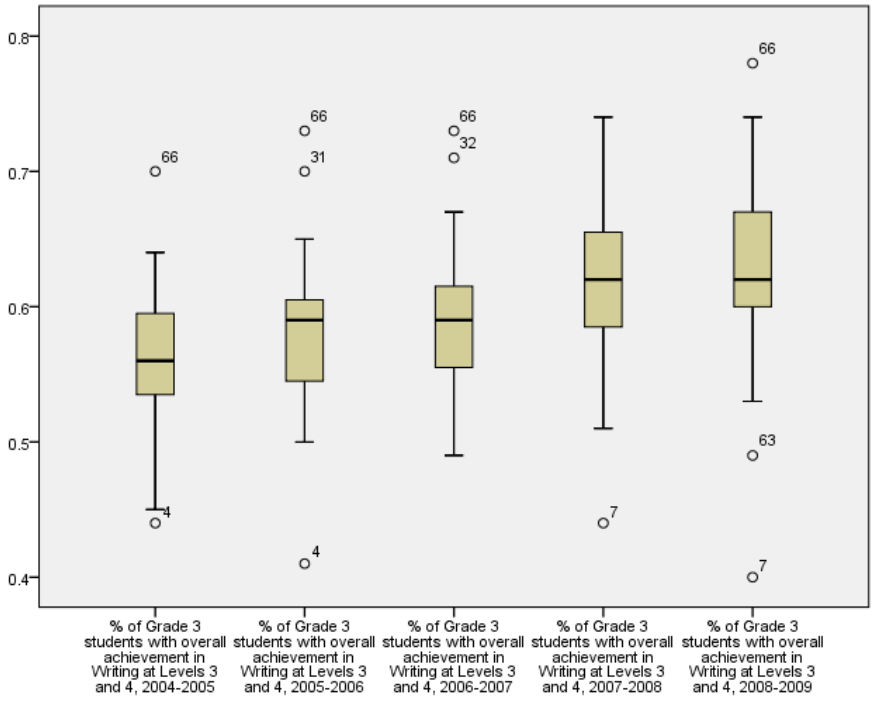


Statistics

		% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2004-2005	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2005-2006	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2006-2007	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2007-2008	% of Grade 3 students with overall achievement in Reading at Levels 3 and 4, 2008-2009
N	Valid	0	11	11	11	11
	Missing	12	1	1	1	1
Mean			.5364	.5009	.5391	.6045
Median			.5500	.5000	.5400	.6000
Std. Deviation			.04965	.03700	.06204	.05768
Min.			.44	.45	.42	.48
Max.			.60	.56	.64	.70
Percentiles	25		.5100	.4600	.4900	.5800
	50		.5500	.5000	.5400	.6000
	75		.5700	.5200	.5900	.6500

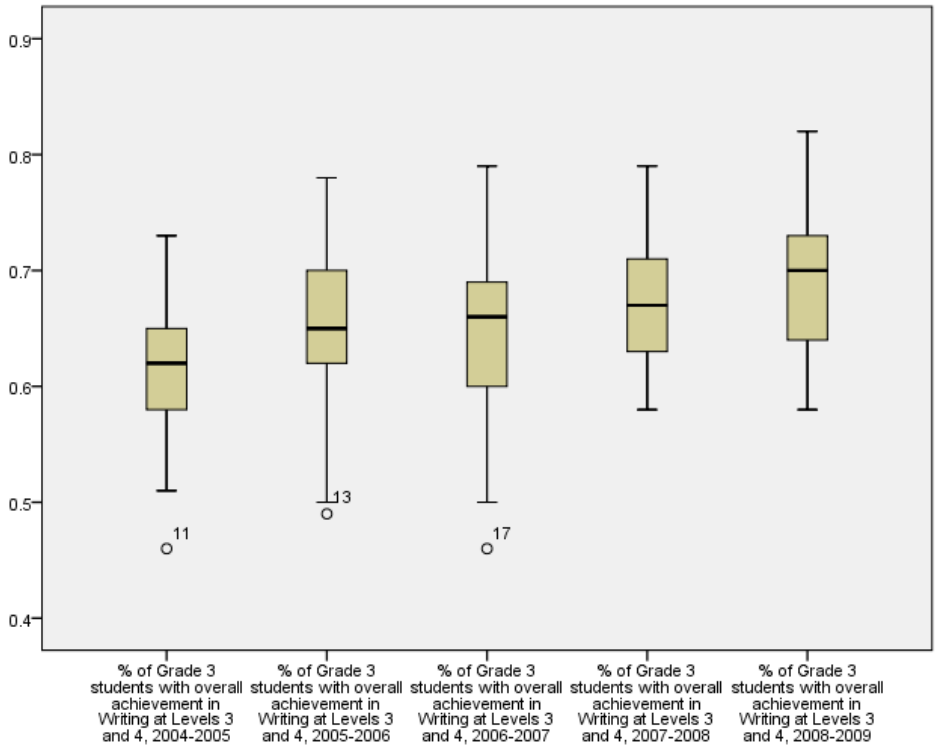
[Panel 4.6] Writing results of all students among the Public boards



Statistics

		% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2004-2005	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2005-2006	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2006-2007	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2007-2008	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2008-2009
N	Valid	31	31	31	31	31
	Missing	0	0	0	0	0
Mean		.5626	.5790	.5913	.6135	.6265
Median		.5600	.5900	.5900	.6200	.6200
Std. Deviation		.05323	.05969	.05402	.06369	.07310
Min.		.44	.41	.49	.44	.40
Max.		.70	.73	.73	.74	.78
Percentiles	25	.5300	.5400	.5500	.5800	.6000
	50	.5600	.5900	.5900	.6200	.6200
	75	.6000	.6100	.6200	.6600	.6700

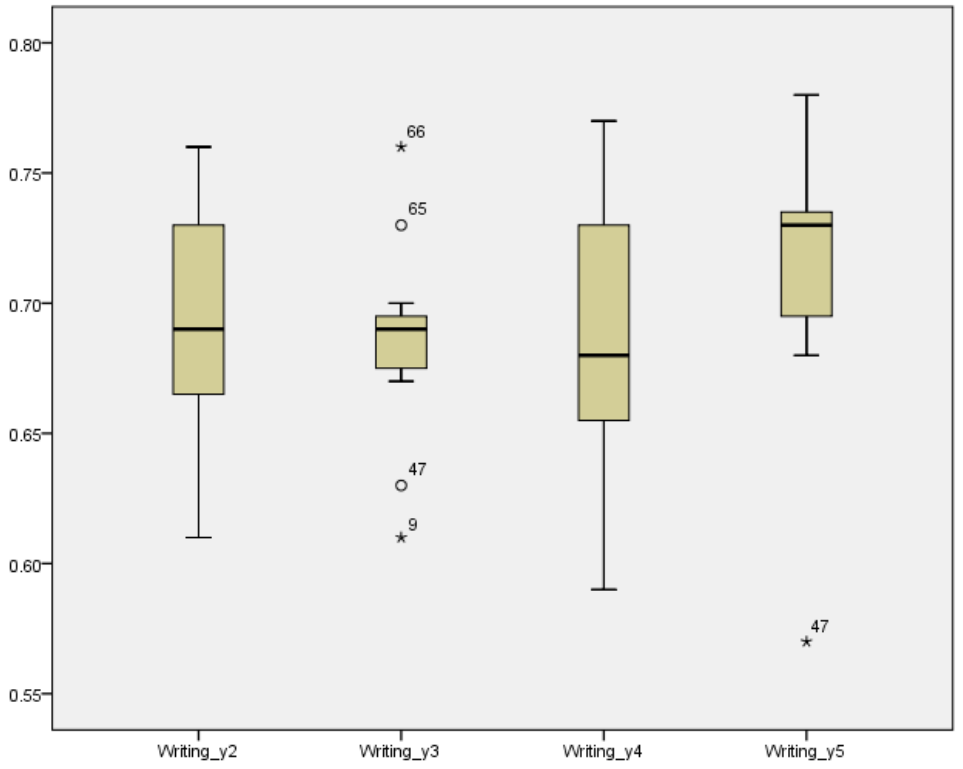
[Panel 4.7] Writing results of all students among the Catholic boards



Statistics

		% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2004-2005	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2005-2006	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2006-2007	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2007-2008	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2008-2009
N	Valid	29	29	29	29	29
	Missing	0	0	0	0	0
Mean		.6124	.6452	.6414	.6738	.6983
Median		.6200	.6500	.6600	.6700	.7000
Std. Deviation		.06283	.06838	.07638	.06213	.06531
Min.		.46	.49	.46	.58	.58
Max.		.73	.78	.79	.79	.82
Percentiles	25	.5750	.6150	.6000	.6200	.6400
	50	.6200	.6500	.6600	.6700	.7000
	75	.6550	.7000	.6900	.7250	.7350

[Panel 4.8] Writing results of all students among the French Boards



Statistics

		% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2004-2005	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2005-2006	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2006-2007	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2007-2008	% of Grade 3 students with overall achievement in Writing at Levels 3 and 4, 2008-2009
N	Valid	0	11	11	11	11
	Missing	12	1	1	1	1
Mean			.6909	.6845	.6855	.7127
Median			.6900	.6900	.6800	.7300
Std. Deviation			.04592	.04108	.05716	.05658
Min.			.61	.61	.59	.57
Max.			.76	.76	.77	.78
Percentiles	25		.6600	.6700	.6500	.6800
	50		.6900	.6900	.6800	.7300
	75		.7300	.7000	.7400	.7400

[Panel 4.9] Rates of identification of special needs students across boards

1) Public boards

Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2004-2005	31	.06	.30	.1332	.05799
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2005-2006	31	.05	.24	.1329	.04670
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2006-2007	31	.06	.25	.1490	.05205
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2007-2008	31	.06	.26	.1613	.05554
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2008-2009	31	.07	.28	.1752	.05674
Valid N (listwise)	31				

2) Catholic boards

Descriptive Statistics

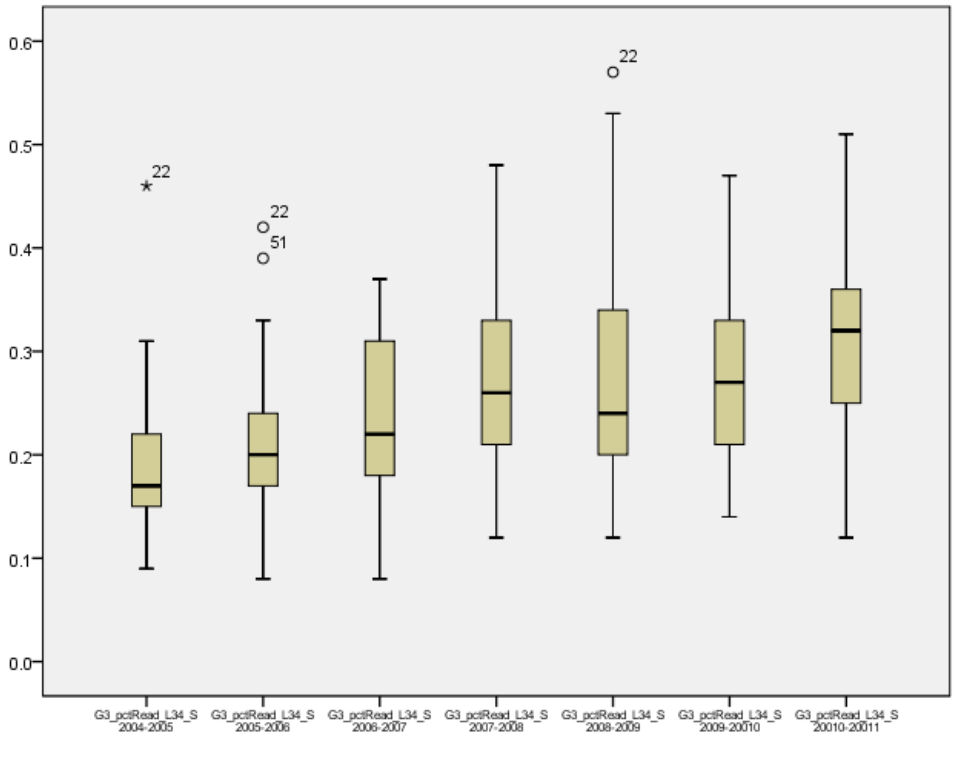
	N	Min.	Max.	Mean	Std. Deviation
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2004-2005	29	.05	.25	.1407	.04935
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2005-2006	29	.05	.31	.1434	.06640
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2006-2007	29	.04	.35	.1579	.07428
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2007-2008	29	.06	.40	.1717	.08324
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2008-2009	29	.07	.36	.1766	.07398
Valid N (listwise)	29				

3) Francophone boards

Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2004-2005	0				
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2005-2006	12	.08	.18	.1325	.03137
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2006-2007	12	.09	.22	.1417	.04469
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2007-2008	12	.02	.23	.1550	.06083
Percentage of Grade 3 students identified with special education needs (excluding gifted), 2008-2009	12	.06	.29	.1550	.07154
Valid N (listwise)	0				

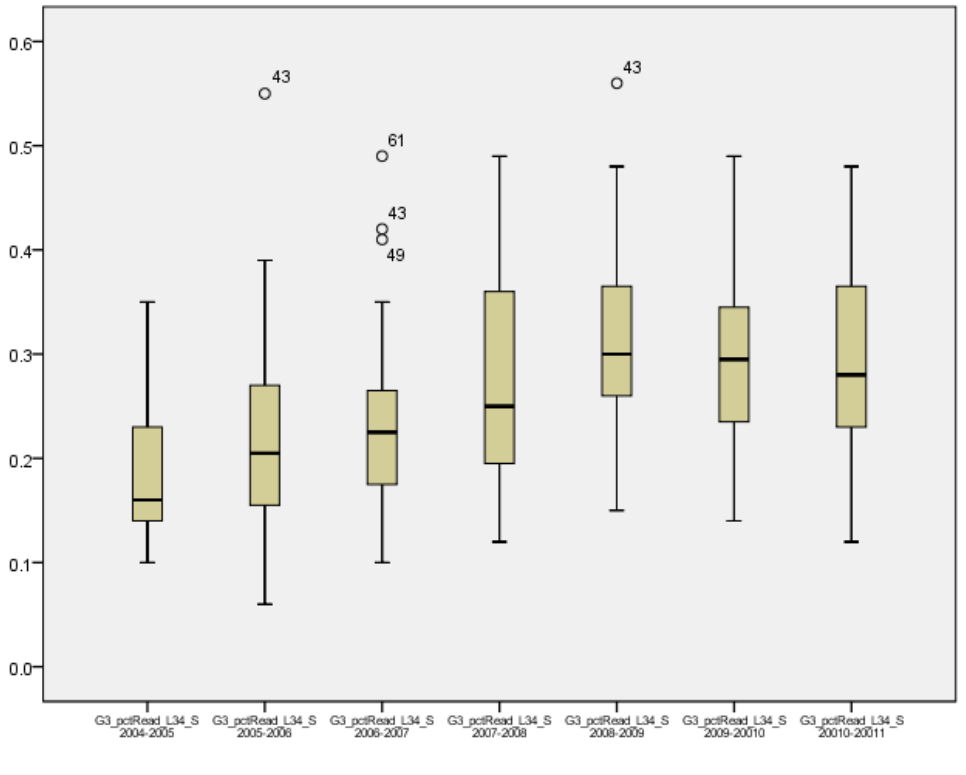
[Panel 4.10] Reading results of the Special Needs students in the Public boards



Statistics

		G3_pctRead_L34_S 2004-2005	G3_pctRead_L34_S 2005-2006	G3_pctRead_L34_S 2006-2007	G3_pctRead_L34_S 2007-2008	G3_pctRead_L34_S 2008-2009	G3_pctRead_L34_S 2009-20010	G3_pctRead_L34_S 20010-20011
N	Valid	30	29	30	29	29	30	29
	Missing	1	2	1	2	2	1	2
Mean		.1897	.2159	.2403	.2693	.2793	.2797	.3172
Median		.1700	.2000	.2250	.2600	.2400	.2700	.3200
Std. Deviation		.07218	.07419	.07156	.08932	.11317	.09148	.09426
Min.		.09	.08	.08	.12	.12	.14	.12
Max.		.46	.42	.37	.48	.57	.47	.51
Percentiles	25	.1500	.1650	.1775	.2000	.1950	.2075	.2450
	50	.1700	.2000	.2250	.2600	.2400	.2700	.3200
	75	.2225	.2500	.3100	.3350	.3450	.3350	.3700

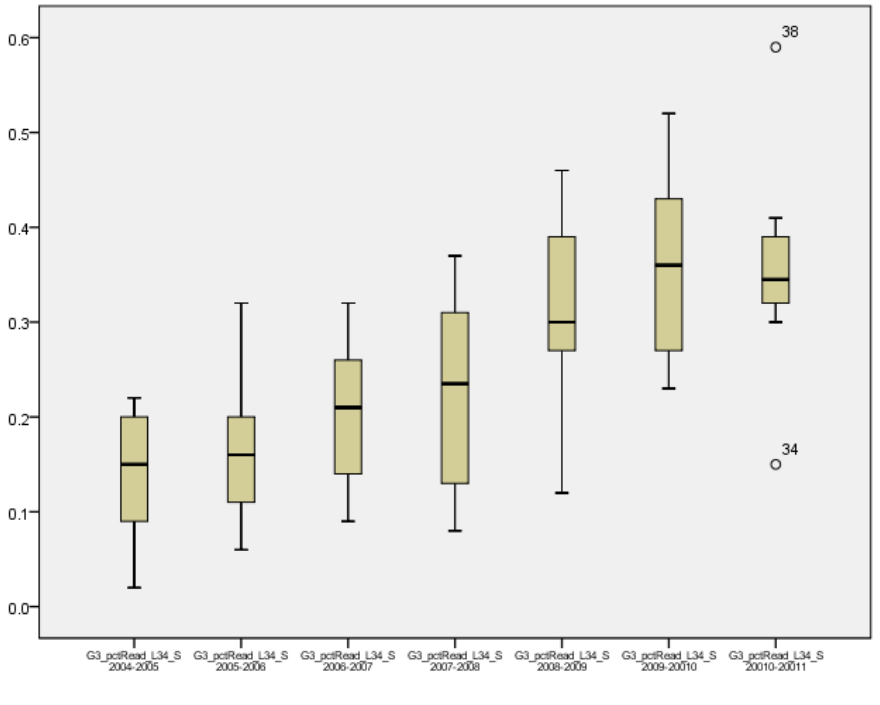
[Panel 4.11] Reading results of Special Needs students in the Catholic Boards



Statistics

		G3_pctRead_L34_S 2004-2005	G3_pctRead_L34_S 2005-2006	G3_pctRead_L34_S 2006-2007	G3_pctRead_L34_S 2007-2008	G3_pctRead_L34_S 2008-2009	G3_pctRead_L34_S 2009-20010	G3_pctRead_L34_S 20010-20011
N	Valid	28	28	28	29	29	29	29
	Missing	1	1	1	0	0	0	0
Mean		.1868	.2196	.2407	.2734	.3107	.2841	.2955
Median		.1600	.2050	.2250	.2500	.3000	.2900	.2800
Std. Deviation		.06577	.10171	.09225	.10118	.10089	.08462	.09341
Min.		.10	.06	.10	.12	.15	.14	.12
Max.		.35	.55	.49	.49	.56	.49	.48
Percentiles	25	.1400	.1525	.1725	.1950	.2600	.2200	.2300
	50	.1600	.2050	.2250	.2500	.3000	.2900	.2800
	75	.2300	.2700	.2675	.3600	.3750	.3450	.3650

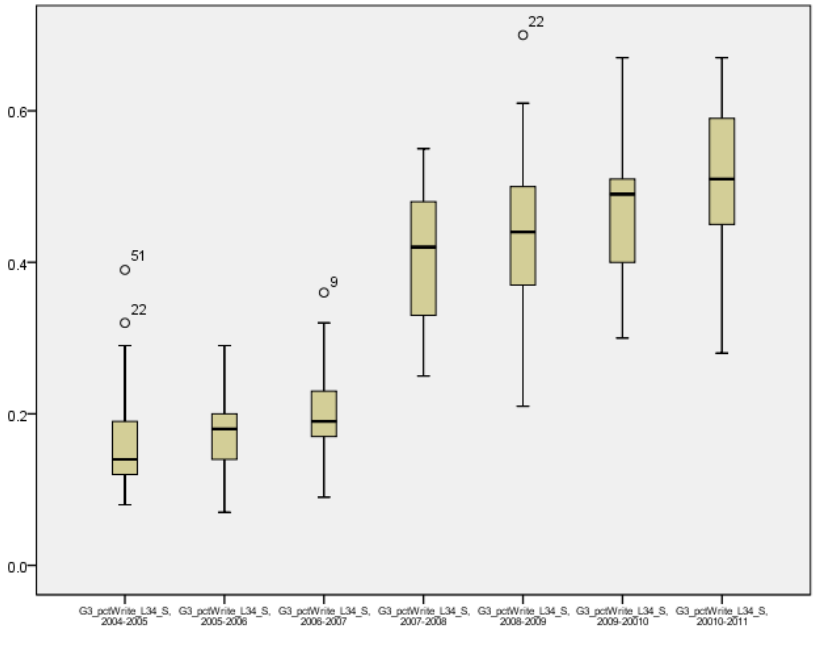
[Panel 4.12] Reading results of Special Needs students in the French Boards



Statistics

		G3_pctRead_L34_S 2004-2005	G3_pctRead_L34_S 2005-2006	G3_pctRead_L34_S 2006-2007	G3_pctRead_L34_S 2007-2008	G3_pctRead_L34_S 2008-2009	G3_pctRead_L34_S 2009-20010	G3_pctRead_L34_S 20010-20011
N	Valid	11	10	10	11	11	11	11
	Missing	1	2	2	1	1	1	1
Mean		.1318	.1710	.1980	.2164	.3073	.3336	.3464
Median		.1500	.1600	.2100	.2000	.3000	.3500	.3300
Std. Deviation		.06735	.07810	.07871	.09688	.09199	.13448	.10652
Min.		.02	.06	.09	.08	.12	.03	.15
Max.		.22	.32	.32	.37	.46	.52	.59
Percentiles	25	.0800	.1100	.1275	.1300	.2600	.2600	.3000
	50	.1500	.1600	.2100	.2000	.3000	.3500	.3300
	75	.2000	.2175	.2625	.3100	.3900	.4300	.3900

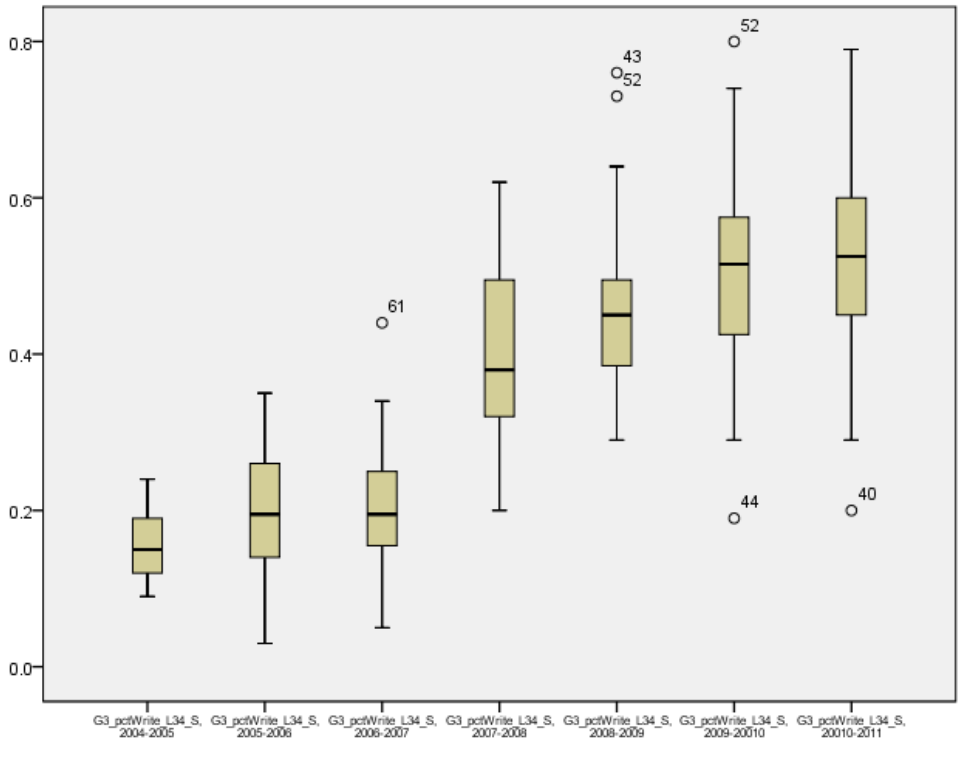
[Panel 4.13] Writing results of Special Needs students in the Public boards



Statistics

		G3_pctWrite_L34_S, 2004-2005	G3_pctWrite_L34_S, 2005-2006	G3_pctWrite_L34_S, 2006-2007	G3_pctWrite_L34_S, 2007-2008	G3_pctWrite_L34_S, 2008-2009	G3_pctWrite_L34_S, 2009-20010	G3_pctWrite_L34_S, 20010-2011
N	Valid	30	29	30	29	29	30	29
	Missing	1	2	1	2	2	1	2
Mean		.1697	.1793	.2000	.4017	.4231	.4610	.5052
Median		.1450	.1800	.1900	.4200	.4400	.4800	.5100
Std. Deviation		.07976	.05625	.06176	.08710	.11561	.09437	.10466
Min.		.08	.07	.09	.25	.21	.29	.28
Max.		.39	.29	.36	.55	.70	.67	.67
Percentiles	25	.1175	.1400	.1675	.3250	.3350	.3825	.4400
	50	.1450	.1800	.1900	.4200	.4400	.4800	.5100
	75	.1900	.2050	.2425	.4850	.5000	.5125	.5950

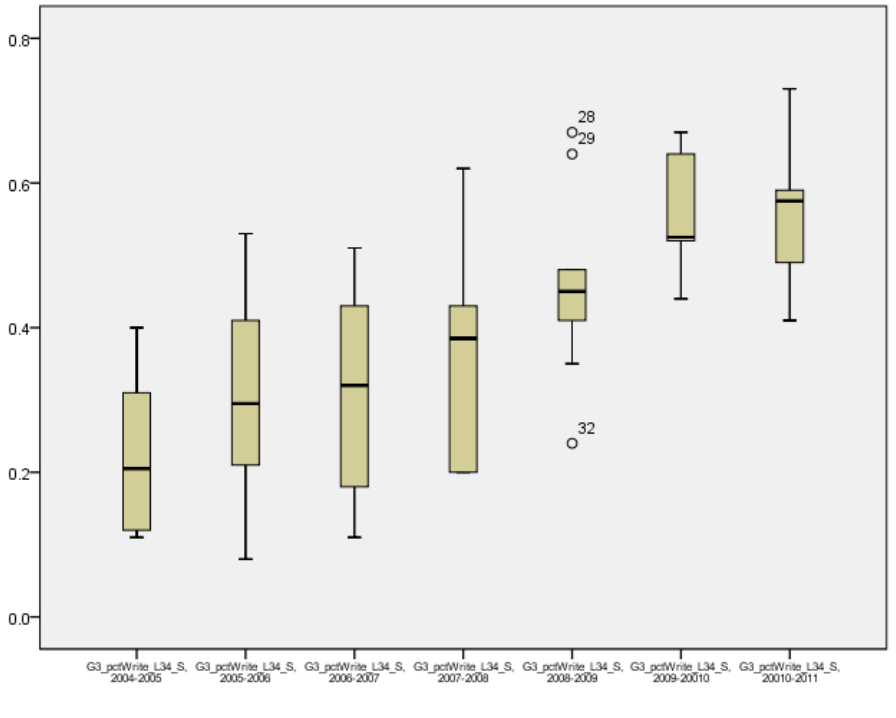
[Panel 4.14] Writing results of Special Needs students in the Catholic Boards



Statistics

		G3_pctWrite_L34_S, 2004-2005	G3_pctWrite_L34_S, 2005-2006	G3_pctWrite_L34_S, 2006-2007	G3_pctWrite_L34_S, 2007-2008	G3_pctWrite_L34_S, 2008-2009	G3_pctWrite_L34_S, 2009-20010	G3_pctWrite_L34_S, 20010-2011
N	Valid	28	28	28	29	29	29	29
	Missing	1	1	1	0	0	0	0
Mean		.1561	.1993	.2046	.4000	.4610	.5000	.5203
Median		.1500	.1950	.1950	.3800	.4600	.5100	.5400
Std. Deviation		.04597	.08196	.08266	.10365	.11503	.12890	.14666
Min.		.09	.03	.05	.20	.29	.19	.20
Max.		.24	.35	.44	.62	.76	.80	.79
Percentiles	25	.1200	.1350	.1525	.3200	.3850	.4150	.4500
	50	.1500	.1950	.1950	.3800	.4600	.5100	.5400
	75	.1900	.2650	.2550	.4950	.4950	.5750	.6100

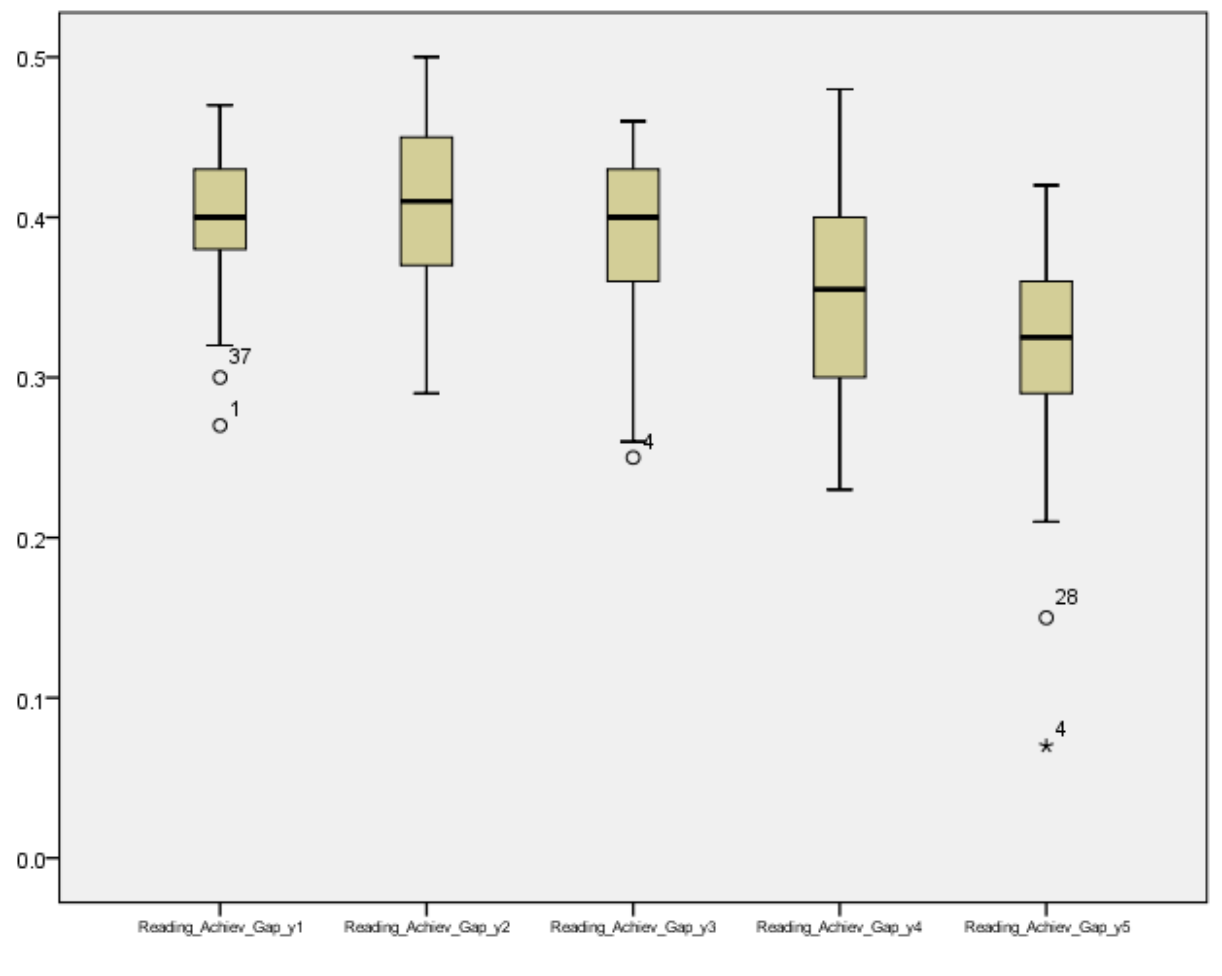
[Panel 4.15] Writing results of Special Needs students in the French Boards



Statistics

		G3_pctWrite_L34_S, 2004-2005	G3_pctWrite_L34_S, 2005-2006	G3_pctWrite_L34_S, 2006-2007	G3_pctWrite_L34_S, 2007-2008	G3_pctWrite_L34_S, 2008-2009	G3_pctWrite_L34_S, 2009-20010	G3_pctWrite_L34_S, 20010-2011
N	Valid	11	10	10	11	11	11	11
	Missing	1	2	2	1	1	1	1
Mean		.2482	.3010	.3140	.3673	.4591	.5355	.5591
Median		.2200	.2950	.3200	.3700	.4500	.5200	.5700
Std. Deviation		.12464	.14403	.14284	.13986	.11878	.11012	.09914
Min.		.11	.08	.11	.20	.24	.30	.41
Max.		.46	.53	.51	.62	.67	.67	.73
Percentiles	25	.1200	.1850	.1650	.2000	.4100	.4700	.4900
	50	.2200	.2950	.3200	.3700	.4500	.5200	.5700
	75	.3800	.4225	.4375	.4300	.4800	.6400	.5900

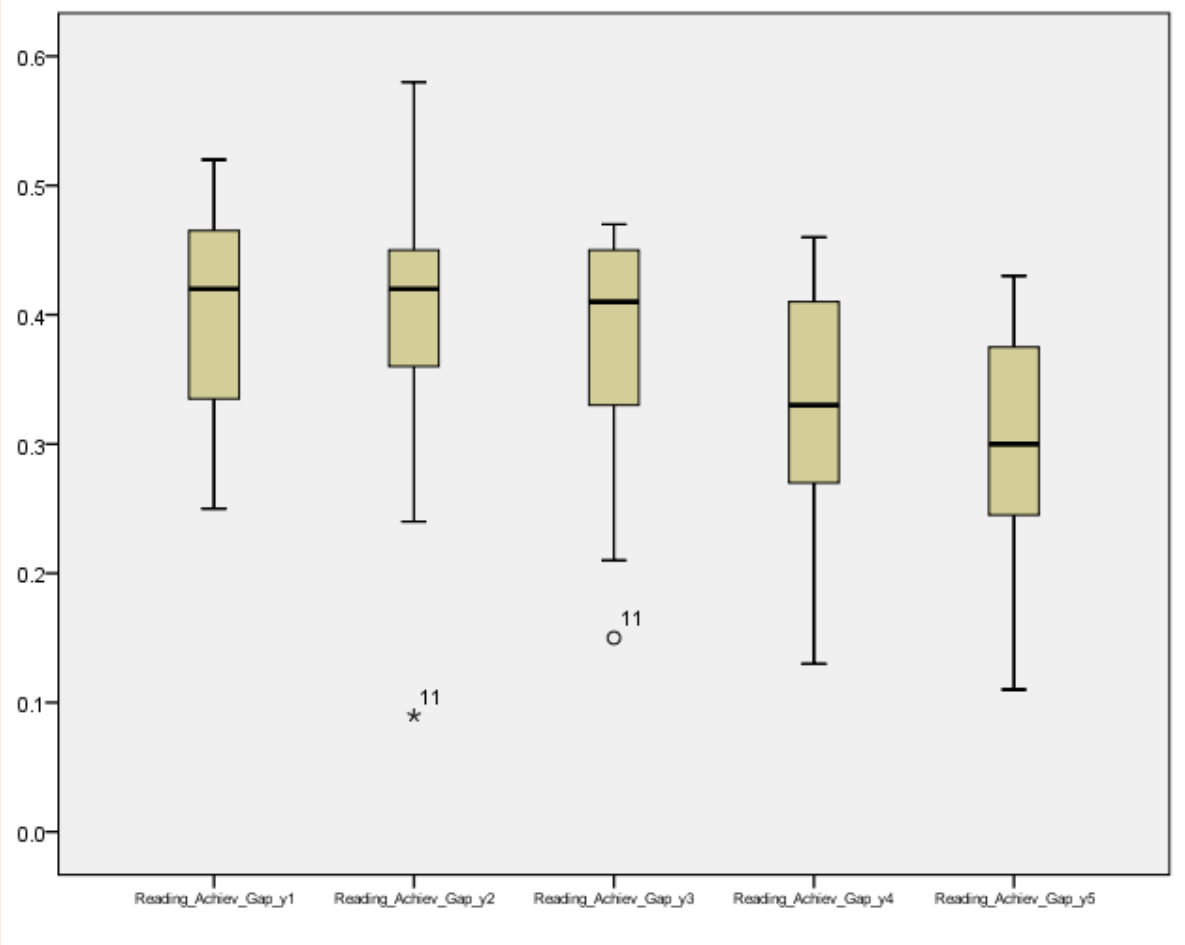
[Panel 4.16] Gaps in percent proficient in reading between non-identified and identified students for the Public boards



Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Reading_Achiev_Gap_y1	31	.27	.47	.3961	.04869
Reading_Achiev_Gap_y2	30	.29	.50	.4087	.05476
Reading_Achiev_Gap_y3	30	.25	.46	.3863	.05834
Reading_Achiev_Gap_y4	30	.23	.48	.3503	.06531
Reading_Achiev_Gap_y5	30	.07	.42	.3120	.07906
Valid N (listwise)	30				

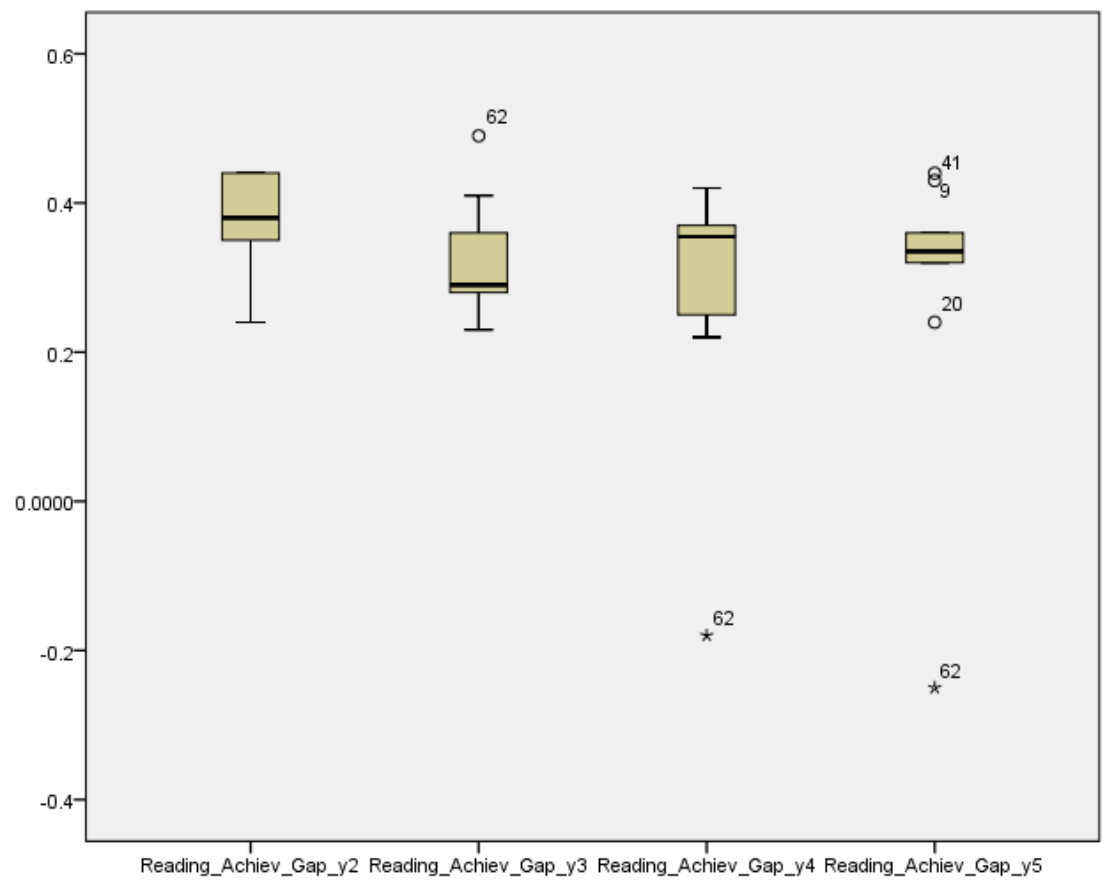
[Panel 4.17] Gaps in percent proficient in reading between non-identified and identified students for the Catholic Boards



Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Reading_Achiev_Gap_y1	27	.25	.52	.4033	.07947
Reading_Achiev_Gap_y2	27	.09	.58	.4019	.09876
Reading_Achiev_Gap_y3	28	.15	.47	.3743	.08732
Reading_Achiev_Gap_y4	28	.13	.46	.3254	.09674
Reading_Achiev_Gap_y5	28	.11	.43	.2936	.09206
Valid N (listwise)	27				

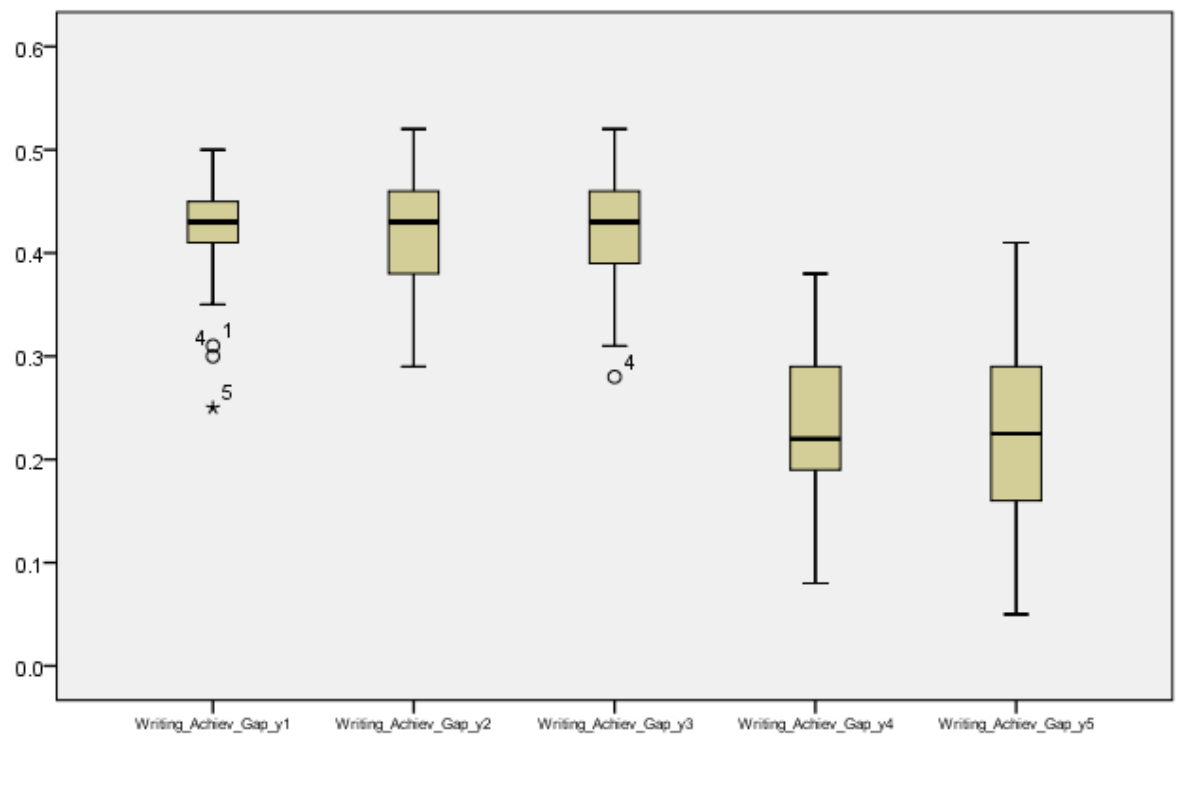
[Panel 4.18] Gaps in percent proficient in reading between non-identified and identified students for the French Boards



Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Reading_Achiev_Gap_y1	0				
Reading_Achiev_Gap_y2	10	.24	.44	.3770	.06413
Reading_Achiev_Gap_y3	10	.23	.49	.3200	.08055
Reading_Achiev_Gap_y4	11	-.18	.42	.2964	.16860
Reading_Achiev_Gap_y5	11	-.25	.44	.2945	.18859
Valid N (listwise)	0				

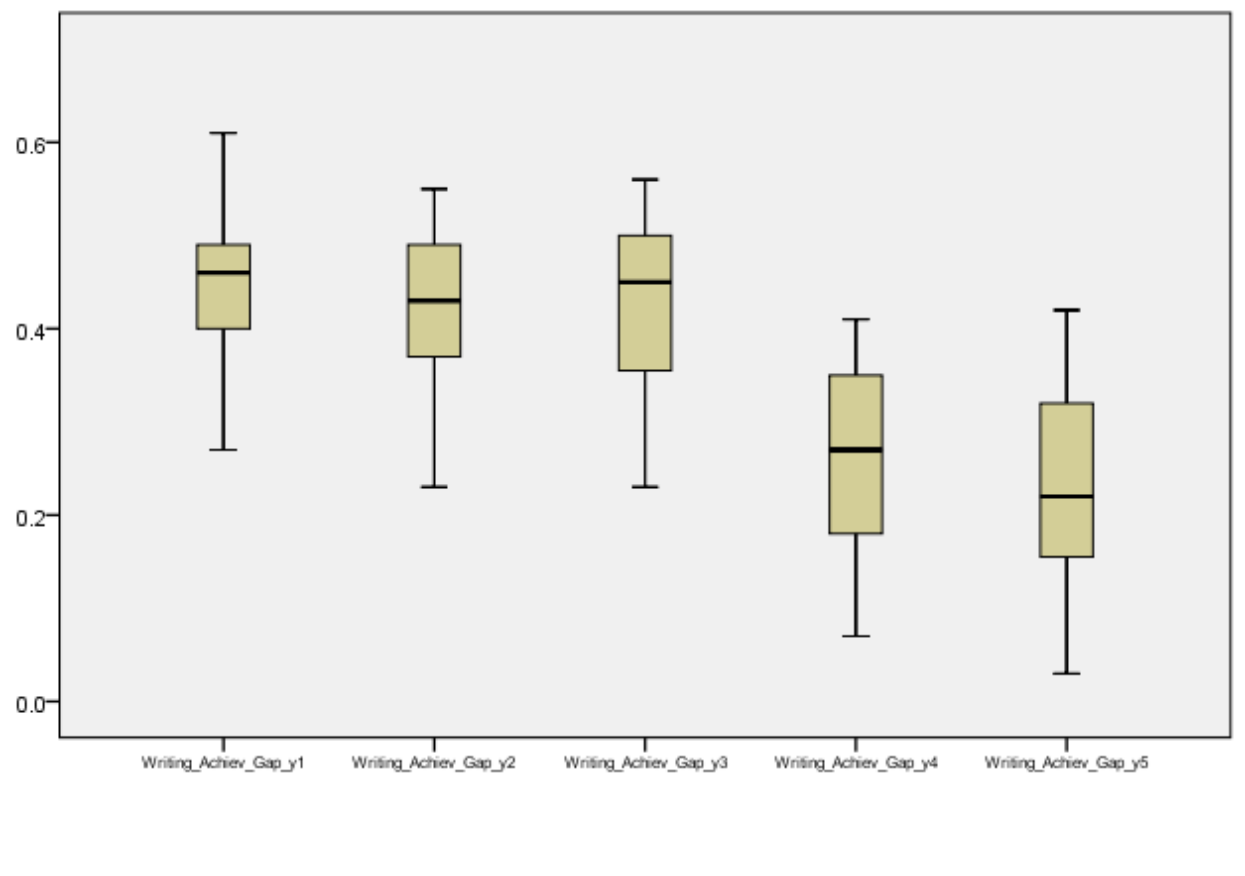
[Panel 4.19] Gaps in percent proficient in writing between non-identified and identified students for the Public boards



Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Writing_Achiev_Gap_y1	31	.12	.50	.4100	.07895
Writing_Achiev_Gap_y2	30	.29	.52	.4240	.05769
Writing_Achiev_Gap_y3	30	.28	.52	.4237	.05611
Writing_Achiev_Gap_y4	30	.08	.38	.2343	.07459
Writing_Achiev_Gap_y5	30	.05	.41	.2230	.09458
Valid N (listwise)	30				

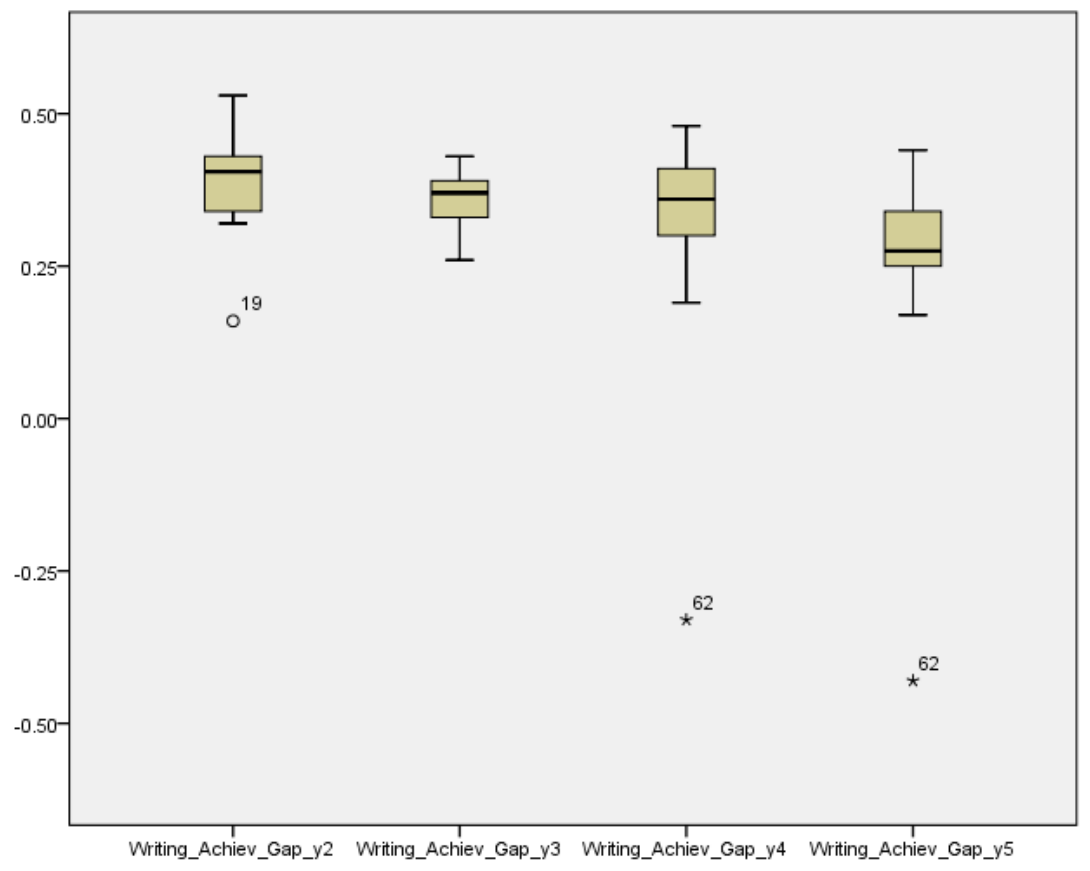
[Panel 4.20] Gaps in percent proficient in writing between non-identified and identified students for the Catholic boards



Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Writing_Achiev_Gap_y1	27	.27	.61	.4481	.07947
Writing_Achiev_Gap_y2	27	.23	.55	.4289	.08102
Writing_Achiev_Gap_y3	28	.23	.56	.4264	.08655
Writing_Achiev_Gap_y4	28	.07	.41	.2529	.10320
Writing_Achiev_Gap_y5	28	.03	.42	.2218	.10346
Valid N (listwise)	27				

[Panel 4.21] Gaps in percent proficient in writing between non-identified and identified students for the Francophone boards

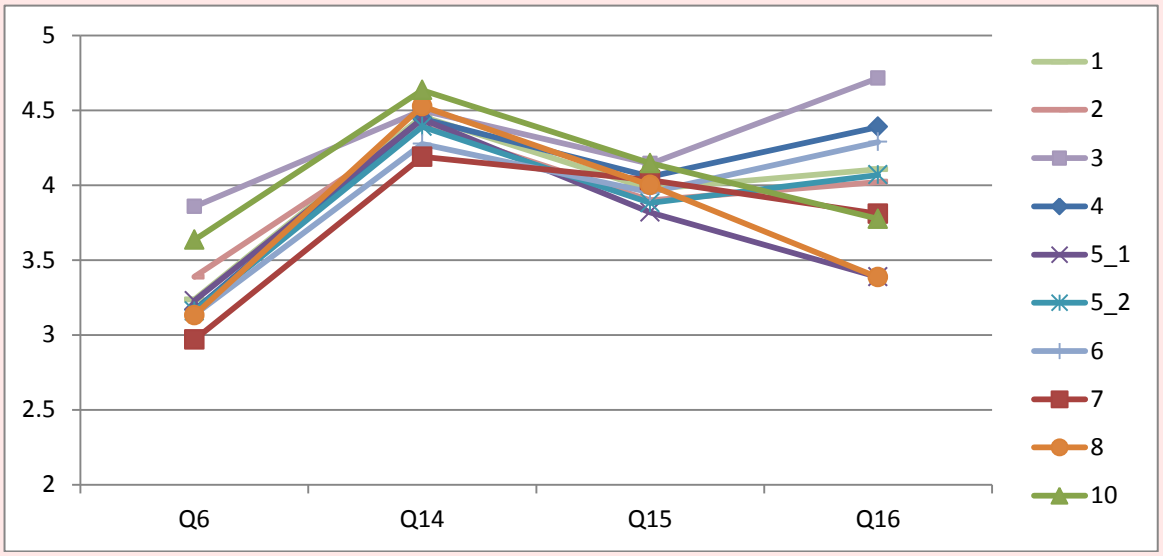


Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Writing_Achiev_Gap_y1	0				
Writing_Achiev_Gap_y2	10	.16	.53	.3830	.09900
Writing_Achiev_Gap_y3	10	.26	.43	.3550	.05583
Writing_Achiev_Gap_y4	11	-.33	.48	.2991	.22331
Writing_Achiev_Gap_y5	11	-.43	.44	.2318	.23069
Valid N (listwise)	0				

Appendix 5. Survey Results (Closed-ended Items)

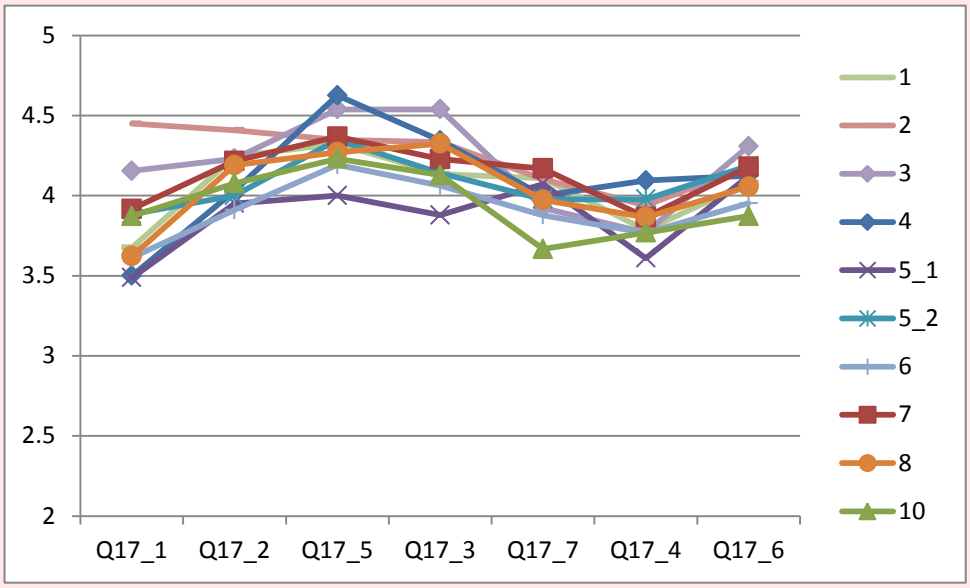
[Panel 1] Education for All and familiarity with CODE



※ Q6 has a 4 point-Likert scale, from 1(not at all familiar) to 4(very familiar). Other survey items have a 5 point-Likert scale, from 1 (not agree) to 5 (strongly agree).

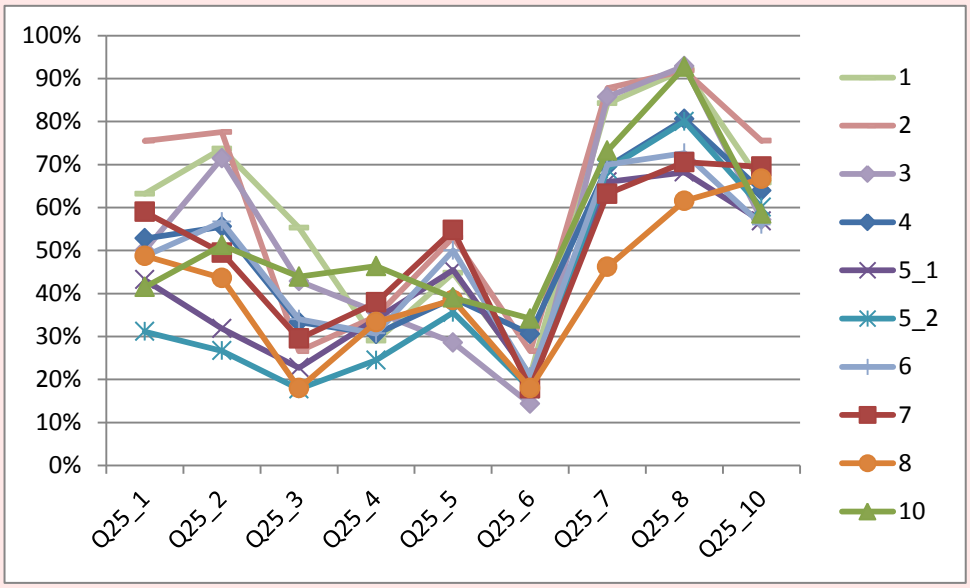
	Min	Max	Mean	Std. Deviation
Q6: What is the extent of your familiarity with the document Education for All?	2.97	3.86	3.29	.27
Q14: The beliefs and principles stated in the Education for All document align with my professional philosophy.	4.19	4.63	4.43	.13
Q15: The beliefs and principles stated in the Education for All document largely align with the professional philosophies of the colleagues in my school.	3.82	4.15	3.99	.11
Q16: I am familiar with the CODE project: Assessment for Learning and Differentiated Instructions in Teachers initiative in my board.	3.38	4.71	3.99	.42

[Panel 2] Since the introduction of CODE project: Indicate the extent to which you agree or disagree with the following statements. Since the introduction of CODE Project: [specific Board initiative]... [school practices]



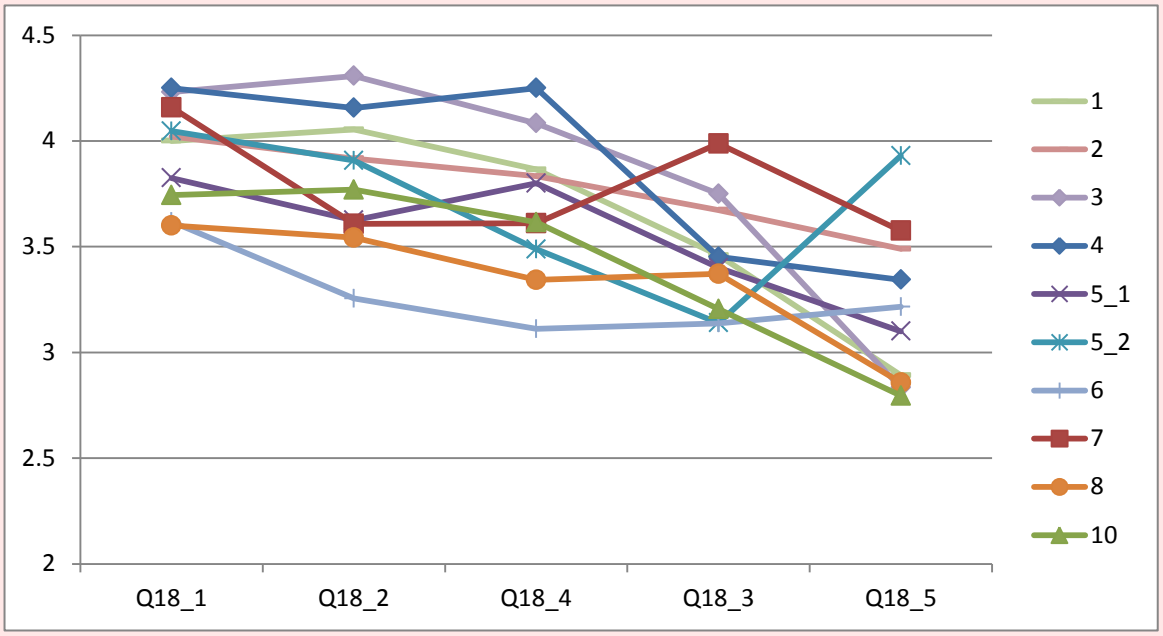
	Min	Max	Mean	Std. Deviation
Q17_1. The principal and vice-principal provide greater instructional leadership for the school.	3.49	4.45	3.82	.31
Q17_2. Among administrators and staff there is a greater sense of collective responsibility for students with special needs' learning and/or achievement.	3.91	4.41	4.13	.16
Q17_5. Teachers recognize the accomplishments of all students rather than only those who accomplish the most.	4.00	4.63	4.32	.17
Q17_3. There is better collaboration among classroom teachers, special education resource teachers, literacy coaches, and other professionals in meeting the needs of students with special needs and other at-risk students.	3.88	4.54	4.21	.18
Q17_7. Challenging and attainable standards for achievement are set and maintained for students with special needs.	3.67	4.17	3.99	.14
Q17_4. There is greater collaboration across grades and departments.	3.61	4.09	3.84	.14
Q17_6. The progress of students with special needs is monitored through a variety of methods of assessment and evaluation.	3.87	4.31	4.11	.13

[Panel 3] Since the introduction CODE project, I'm more likely to engage in the following with my colleagues …



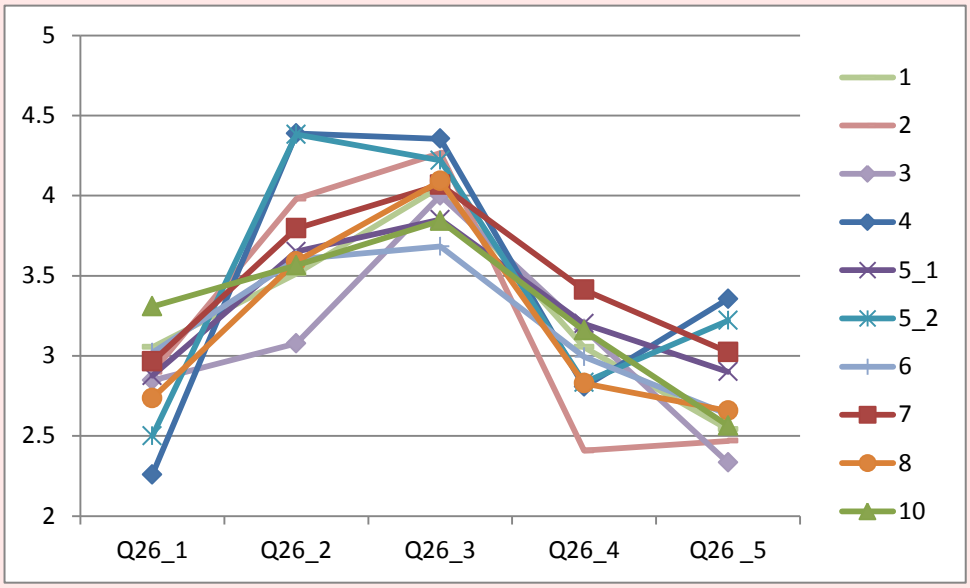
	Min	Max	Mean	Std. Deviation
Q25_1: Co-create assignments	.31	.76	.51	.12
Q25_2: Co-plan lessons	.27	.78	.54	.17
Q25_3: Observe a peer teaching	.18	.55	.32	.12
Q25_4: Give a peer feedback	.24	.46	.34	.06
Q25_5: Take suggestions from a peer on my teaching	.29	.55	.43	.08
Q25_6: Give unsolicited suggestions to a peer	.14	.34	.22	.06
Q25_7: Examine student work	.46	.88	.71	.12
Q25_8: Discuss data and student achievement results	.62	.93	.80	.12
Q25_10: Help one another using classroom technology	.56	.76	.63	.06

[Panel 4] The following five statements refer to the assessments that you use in your classroom…. Please indicate the extent to which you agree or disagree with the following statements. Since the introduction of CODE Project: [specific Board initiative]… [assessment/data use]



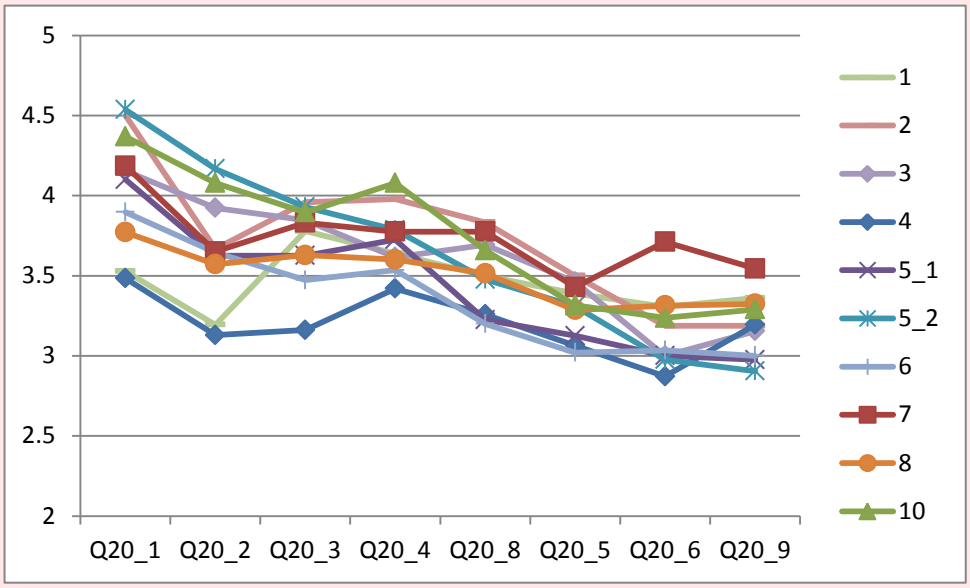
	Min	Max	Mean	Std. Deviation
Q18_1: My school makes better use of this assessment information to guide instruction.	3.60	4.25	3.95	.24
Q18_2: I have the training and support I need to use this information effectively in my own work.	3.26	4.31	3.81	.32
Q18_4: In relation to the use of data, the professional development that I have received has been more useful.	3.11	4.25	3.70	.33
Q18_3: I feel the need for more professional development around the use of assessment results.	3.14	3.99	3.46	.28
Q18_5: There is now too much attention to data and not enough to professional judgment.	2.79	3.93	3.20	.38

[Panel 5] Please indicate the extent to which you agree or disagree with the following statements. Since the introduction of CODE Project: [specific Board initiative]... [EQAO]



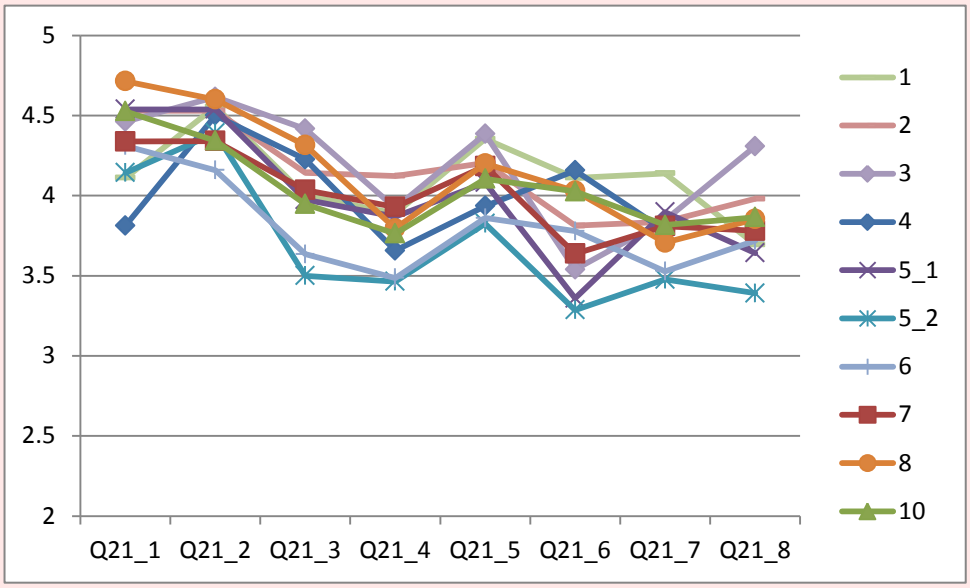
	Min	Max	Mean	Std. Deviation
Q26_1: EQAO results generally provide an accurate description of the academic competencies of the students in my school.	2.26	3.31	2.85	.29
Q26_2: Board concerns with EQAO results are driving too much of what we do day-to-day.	3.08	4.39	3.75	.40
Q26_3: EQAO results are generally not an appropriate measure of what students with special needs know and can do.	3.68	4.35	4.04	.21
Q26_4: The focus on achieving EQAO results at or above the provincial standard (i.e., Levels 3 or 4) influences me to target my efforts on students who need my help the most.	2.41	3.41	2.99	.28
Q26_5: School efforts driven by EQAO results are distracting me from working with students who need my help the most.	2.33	3.35	2.77	.34

[Panel 6] Indicate the extent to which you agree or disagree with the following statements. Since the introduction of CODE Project: [specific Board initiative]... [student needs]



	Min	Max	Mean	Std. Deviation
Q20_1: are typically mainstreamed into regular classrooms.	3.48	4.54	4.05	.38
Q20_2: now experience fewer “withdrawals.”	3.13	4.17	3.67	.33
Q20_3: participate more fully in classroom academic activities.	3.16	3.96	3.71	.25
Q20_4: are better integrated into the social life of the classroom and the school.	3.42	4.08	3.72	.20
Q20_8: are experiencing greater gains in social and emotional development.	3.20	3.83	3.51	.23
Q20_5: are more likely to receive intervention services in a timely fashion.	3.02	3.50	3.29	.17
Q20_6: are better able to advocate for themselves.	2.87	3.71	3.16	.24
Q20_9: are making more rapid progress on key academic indicators.	2.90	3.54	3.19	.20

[Panel 7] Please indicate the extent to which you agree with the following. Students with special needs have benefited from the introduction of the following tools or strategies



	Min	Max	Mean	Std. Deviation
Assistive technologies (e.g. FM systems, ELMOs, computers)	3.81	4.71	4.35	.27
Differentiated instruction	4.16	4.62	4.46	.15
Tiered intervention	3.50	4.42	4.02	.28
Universal Design for Learning	3.46	4.12	3.79	.21
Assessment for learning	3.83	4.38	4.11	.19
Use of locally developed assessments (e.g. FROG reading powers, HAWK writing traits and STOMP Thinking Zones rubrics)	3.29	4.16	3.77	.31
Use of externally developed assessments (e.g. PM Benchmarks, CASI, and OWA)	3.48	4.14	3.78	.19
Use of new curricula or pedagogical strategies	3.39	4.31	3.80	.25

Appendix 6. Survey Results (Open-ended Items Summary)

[Panel 1] Positive Effects of ESGA on Students

Greater collaboration-among teachers, support staff
More/better use and integration of assistive technology
More use of differentiated instruction

"Through my teaching experience I have noticed that teachers often plan lessons and units together. Also, classroom teachers often collaborate and consult with SERTs to better meet the needs of the students in their classrooms."

"There is much more assistive technology for the students who need these things now than there was years ago. The Spec Ed department does a very good job of preparing the students to use these tools."

"The students have developed a greater awareness of their learning disability and have developed self-advocacy skills. The use of the computer enables students to become independent learners, as well as role models."

"More learning centers seem to be part of our planning to get the students talking more about what they are learning. It also provides an opportunity for immediate feedback to the student - keeping the students on track and learning to make changes to their work if required. The time required to practice and fully grasp concepts is essential to student learning and understanding."

"Generally, students are feeling more comfortable with their LDs and are better able to show what they know because they can produce work on the computer. Tech is generally more engaging as well and so it has captured a population that was previously unmotivated and alienated by their learning differences."

"Students are more engaged. Fewer behavior issues in the classroom. Differentiated and small group instruction works way better than just whole group instruction does. Students learn more. Huge influx of resources (Book Room, Essential Skills, teacher resources and training, guided reading tables etc.) all have had a positive impact on student achievement."

"Students now have many resources available to them plus the latest in DI techniques and lessons that benefit everyone!"

"More aid in small group activities and we are able to release small groups of students for the extra help they need to reach their full potential."

"Special needs students receive instruction in the classroom with their peers. A great deal of classroom time is spent working in groups rather than whole group instruction enabling teachers to reach all learners."

"More DI in the classroom. DI support has helped to create an atmosphere of team teaching and has decreased competition between classrooms and grades."

"DI Support teachers are helping other teachers understand how to differentiate."

[Panel 2] Negative Effects of ESGA on Students

Too much focus on data, assessment – overall and in early grades
Need for more/better professional development and other types of support (e.g., personnel), resources
Too much time away from classrooms (teachers), strong teachers taken out of classroom to be coordinators/leaders

"There is a great deal of board mandated assessment required and not necessarily enough time for teachers to give that timely, effective feedback from those assessments."

"Wrestling with moving beyond the data. Assessments reveal a student is struggling. Responding to data with appropriate instructional support continues to be an on-going challenge."

"Students are people, and not just students. There are teachable moments outside of simple subjects and strands that are equally or more beneficial to those people, but are threatened by too much focus on data-documented results. The focus and push for data might have blurred some perspective on how appropriate it is to take time for the broader definition of teaching."

"DI support can be a little inconsistent so when you think you are getting that extra support you don't get it, therefore the student misses out. With all special education teachers and DI support if they are absent no supply is called, if there is a workshop then tend to send the spec. ed and DI. Realization took up a massive amount of time away from the needs of the children. The classroom teachers are constantly held responsible and accountable - therefore the special education should be there for the kids all the time - sometimes they use their time for paper work or planning - (they should use their planning time just like the regular classroom teacher) The system is unfair but the pay remains the same. Bottom line: less support for the child. The role of DI and Special Education need to rotate on a regular basis to keep fresh."

"With the more and encouraged inclusion of Special Needs students in the classroom, lack of technology support is a glaring need to be further developed. As teachers we are not versed in technology and are frequently forgotten in training sessions. These students are using the computers in our classrooms and we do not have the expertise to help them with problems. Colored photocopies are also an area of non-need. The expense on some of the literature is astounding and would like to see this on personal or building libraries."

"I am still struggling to understand the assistive technology that has been introduced to the students due to my own lacking in computer skills. Interactions regarding students who have been to the Learning centers is much more positive...it has been a fantastic support system for the students. Classroom teachers are still hesitant to come on board with learning the various programs that students use at the AT."

"There is very little opportunity to use technology outside of the scheduled computer times. This limits the amount of assistive technology we can practice using. We would like to use more and understand more about the programs available."

"Too much focus on the technology takes away from the student time and the one to one interactions."

"More emphasis on using technology to support. Teachers are more concerned about whether a student understands and utilizes concepts and whether they can demonstrate it in some form rather than always expecting the same product."

"School has attempted to put additional technology supports into the system. However, the upkeep of these, the workability (i.e. classroom setup, connectivity to the wireless system, system being done...) This is a long and tedious process and is rife with difficulties. It is extremely time consuming with minimal outcome."

“Assistive technology has so many benefits for students, especially those with special needs, but the hardware requirements are not always available and teacher and student training are limited. This strategy is underutilized and is therefore not supporting student learning.”

“One complaint that I have is that there have been so many workshop days to support these programs that have taken me away from the classroom a lot. Also, there is a lot of repetition of information in these workshop days that make them inefficient.”

“There really are not enough supports for the students who have learning needs. The students need more supports in the area of staff, both Educational Resource workers and Special Education Teachers. The focus on data and test scores as well as the administrative work that is required to complete IEPs has taken time away from the students.”

“Scheduling - once someone is away, the program is in trouble. If a volunteer, or teacher, or EA is not available during a planned period, the effectiveness is not there.”

[Panel 3] Positive Effects of ESGA on staff

More collaboration among teachers, specialist: speaking same language, sharing, strategizing, dialoguing, etc.
More/better use of assessment and data for understanding and addressing students' needs (Better and earlier identification of students' needs)
Better PD, on-going availability of resources
Better use of/training on technology

"Since beginning my role as DI this year, I have had the opportunity to work in many different classrooms, introducing technology that may not otherwise have been used. Teachers are becoming more comfortable with me offering ideas or strategies, rather than feeling threatened. Junior/Intermediate teachers are becoming more receptive to some of the ideas they had formally considered 'primary', like literacy and math centers, and word walls."

"We are a strong team and discussing issues. The students are seeing a more collaborative approach. We are using the same language and structures to develop similar learning (especially in same grade teaching). We are resource and supported and aren't afraid to try the Gradual Release. Actually this week my Immersion colleague has let go of 'dictating' and allowed our students to contract their work. I have personally learned more presentation choices and actually learned more about my students their learning profiles (MI Lead). We have discussions with the students about their strengths and areas of need. As colleagues we are all privy to the data and areas of need for certain groups of students which makes September much more fluid."

"These changes have made me more attentive to how I plan lessons and integrate all learners when teaching math concepts daily. I feel colleagues within same divisions come together to discuss, plan and share ideas for teaching more openly."

"PLC committees that have focused on the comprehension strategies have encouraged a more consistent approach to developing these strategies throughout the school. Regular SRT meetings identify and highlight the specific needs of individual students and ensure that no child falls between the cracks. DRA and PM benchmarks have identified individual student goals and allowed the classroom teacher to plan for the child based on their current level."

"My colleagues and I have collaborated on the needs of students, both those on IEPs and not formally identified, who would benefit differentiated instruction. Brainstorming new and old ideas has generated plans that have proven effective, providing my colleagues and I with a sense of accomplishment when seeing student achievement. This creates bond between us and leaves us excited for the next challenge."

"Positive effects have been mostly in the area of collaboration. I really enjoy bouncing ideas off my co-workers and it has made us closer as a team. I feel like we benefit from that but also the kids do because they see us working together and they know that we are all looking out for each other. It's good modeling for student cooperation. It also increases staff morale when we are all a team that is working for a common good. I feel more confident in what I am teaching each day as well if we are all doing the same things."

"There have been many positive effects as people are using the same language to communicate, they share instructional strategies and collaborate and problem solve together more with their team partners , the SERT, reading recovery teachers and literacy coaches. They have found alternative ways of assessing through pictures, and oral conferences and with the assessment tools it has helped to guide what they need to observe. Extra resources also really benefitted them and they were able to order them collaboratively based on need. Also, we had a speech pathologist model a lesson with our students which all the teachers took back to their classrooms, and a speech pathologist helped to further develop

the centres to encourage oral language. Having other para-professionals had an impact and we were able to visit another school who had implemented various strategies and they were so excited about sharing their ideas with us."

"The schools in the middle workshops last year were very effective, especially moderating with a variety of teachers and moderating with the principal and same grade teachers. It is helpful to critically look at a students work and get the opinion of others. It gives the teacher an unbiased opinion."

"Knowledge is power. New recourses and practices supported by research make all of us better teachers and help our students succeed. The introduction of HAWK and STOMP drives teacher instruction and assessment and help students achieve their potential in writing and higher level thinking."

"I find that teachers are co planning more often and there is more discussions among grade partners and resource staff regarding special needs students. As well, we are learning how to use BANCHO, and other collaborative instructional strategies to help reach all learners."

"Most teachers at our school now work with their grade partner planning common lessons and assessment. This was a less common practice previously. More often PD is teacher-lead. I think there is a more open feeling between staff. People are less intimidated by new ideas, or the concept of sharing ideas and trying something new."

[Panel 4] Negative Effects of ESGA on staff

Too great a focus on data and assessments
Support: need for more PD and other support
Time: too much time out of classroom (PD), too great of a workload, not enough time to realize goals

“The focus on entering reams of data into computers and making "data walls' has not helped the students...I spend all day, all year with my students. I know what they need to know, and need help in reaching the students by smaller class sizes, help with discipline, teaching materials, etc... After two weeks in a classroom I can tell you at what level my students are working at...I don't need tons of data to tell me what I already know...The day is too short, there are too many students in classes, too many interruptions, etc...”

“Lack of training for new teachers. When I came to this school I was just given the book on STOMP and had no guidance or assistance for the first few months. I came from a high school where STOMP was not being used so it was difficult to implement a program I knew nothing about.”

“I feel that the role of the D.I. is an unclear one. Team teaching takes time and planning and often with elementary teachers busy days, it can occur once and awhile, but not on a daily basis. The D.I. is either a teacher literacy leader and coach or else becomes like a resource teacher supporting students groups in the classroom. People have been well in serviced on Hawk Stomp and D.I. and at this point, it is overdone. I think that money would be more well spent on hiring a few more psycho. ed. consultants to do assessments when needed so that students can be identified and serviced with the technology that they need. Students are screened in Grade Two by psycho. ed consultants, but then those same students later in Grade 4, 5, and 6 cannot receive psycho. ed assessments as there is not enough staffing to complete what needs to be done. There are many special needs students who are not identified and should be, but they do not have the proper paper work to accompany their learning problems.”

“Unfortunately, I think the concept of "data" has become twisted. It seems like what began as a good idea has morphed into the ridiculous. I'm not sure how much of this is connected to the CODE project directly but many of the assessment tools that were introduced to us have become mandated at the board level and actually interfere with the natural flow of the teaching/learning that goes on in the classroom. I find a huge disconnect between the goal of differentiating our instruction and reducing our students to a series of numbers and graphs and flow charts...and being encouraged to display the graphs.”

“The diagnostic assessments, although very beneficial in tracking students' success and need for assistance, has taken over as the main focus. Our Board has now mandated the use of these assessments by everyone with set timelines for administration of these tests. Now rather than using them when we feel it would be most useful, we are having to interrupt the flow of learning to complete the tests, mark and input the data. The students' abilities often change within a short time period making the data from this assessment invalid.”

“Teacher time is being used more and more to meet with consultants on their planning time and lunches. Teacher need time to work with their grade partners for planning purposes.”

“The many workshop days are disruptive to our programming. There is very little time that we have to co-plan lessons. We are squeezing that teacher planning time in wherever we can and it is often insufficient.”

[Panel 5] Positive impact of EQAO

> *Can be helpful for identifying students' needs, targeting instruction, getting them access to assistive technology and accommodations.*

"Upon entering the results of the assessments, as a team we are able to sit down and take a closer look at each student and make changes or adjustments to lesson plans thereby targeting areas of weakness. At a glance we are also able to pick up any patterns and address those."

"It gives me somewhat of a focus on areas that are lacking i.e.) problem solving in math, inferring in language, etc."

"The Board-level focus on EQAO results actually helps me compare my identified students to all students that have written the EQAO. We try to move our level 2 students to level 3, 3 to 4, etc. Teachers are trying to identify the gaps and try to close it. It is no different for our identified students. The individual EQAO results are considered one 'piece of the puzzle' because we also observe: DRA, ORR, OWA, OCA, Woodcock Johnson, and other informal testing."

"The results help to identify key areas of learning that may have been missed. These results help us to bridge the gaps for all the students and especially for students with special needs. Attention has focused on giving students who need extra support the time and attention to address their academic needs and guide them in the areas where the students use their strengths to yielded better results."

[Panel 6] Negative impact of EQAO

Many said "no effect" – that they focus on good teaching, meeting students' needs and hope this is reflected in EQAO scores.

"I find that because EQAO is a paper and pencil test., it does not truly assess and evaluate our special needs students. These students are not able to show what they really do know. Throughout the year, these students have various choices for their assessments and evaluation and usually it is not a paper and pencil task."

"It is frustrating that special needs students, who already have difficulty staying afloat within your program, need to be absent from your classes so often as a result of their attendance at the AT centre. When they return, they have missed out on so much instruction that even providing them with a computer as a tool isn't enough to put them on track, especially when it comes to learning French as a second language."

"What is frustrating is special needs students are given many accommodations to succeed in the classroom but when tested on EQAO nothing is in place to support them."

"I personally think the Board and Administrators put too much emphasis on EQAO results. I teach what my students need to know (whether mainstream, accommodated, or modified) based on curriculum and in a way that meets their needs. If that helps them in EQAO, great, if not, there are more important lessons to learn than getting a good mark on EQAO."

"The focus on entering reams of data into computers and making "data walls' has not helped the students...I spend all day, all year with my students. I know what they need to know, and need help in reaching the students by smaller class sizes, help with discipline, teaching materials, etc... After two weeks in a classroom I can tell you at what level my students are working at...I don't need tons of data to tell me what I already know...The day is too short, there are too many students in classes, too many interruptions, etc..."

"We focus too much on testing and results leaving very little time to cover curriculum."

"The idea of evaluating data and having teacher meetings with admin to go through specific changes was uncomfortable for me because it made me feel as if my teaching was being criticized. A better method to allow teachers to learn about methods from their peers is better."

"EQAO influences all of us in terms of giving us a view of the school as a whole and in allowing us to take that view and set school goals toward achieving higher in different areas. I find it useful in indicating our strengths more than our weaknesses. We all need to know how well we are doing with our teaching efforts rather than just accenting our weaknesses. That doesn't boost teacher morale."

[Panel 7] Positive relationship among Initiatives

Generally, the majority response was "yes." The initiatives were complementary and helped put student needs at the forefront. Cited many of the benefits mentioned earlier.

"Yes, I think the various initiatives have strongly complemented each other. The Schools in the middle, OFIP, Teaching Learning Pathways, Critical Literacy Inquirys, Math Streams and Math SAT have all worked to better our teaching practices and focused on the varied learning profiles of students."

"Yes they have complemented every effort in all divisions. I find our staff has a whole was drawn together in envisioning student success as a whole school effort and not a single grade teacher's responsibility. I have learned much about myself and my own teaching that has expanded my view and appreciation for collaborative learning, learning teams and differentiated learning appreciating our multiple intelligences."

"Yes, they have complemented every effort in all divisions. I find our staff has a whole was drawn together in envisioning student success as a whole school effort and not a single grade teacher's responsibility. I have learned much about myself and my own teaching that has expanded my view and appreciation for collaborative learning, learning teams and differentiated learning appreciating our multiple intelligences."

[Panel 8] Negative relationship among Initiatives

Caveats included:

(Sheer number of initiatives is overwhelming)

(Too many to implement each initiative well, not given sufficient time for them to work)

"TOO MANY!!!! It has been overwhelming. I agree with the CODE project but sometimes it is overwhelming to differentiate all learning and some children need early intervention DAILY with teachers who specialize in a certain area. It is almost impossible to see children in a small group daily."

"I think that there are too many initiatives coming down from the Board level and each one of them comes across as very important. These initiatives are time consuming and hinder the creativity and flexibility of the classroom teacher by placing a greater emphasis and focus on issues which are made by individuals who have been removed from the classroom setting for many years. Although I agree with accountability I feel we are bombarded with far too many new and not always useful initiatives and we are not provided with the time to assimilate what we are to implement before something new comes along. Teachers are not given enough credit for the fact that they know how to teach and evaluate."

"Too many initiatives and not enough time to focus on the students. There is no time to implement what one has been trained (if training was provided) before another initiative comes along."

Notes

Chapter 1. Introduction.

[1] Council of Ontario Directors of Education. (2007). Special education leadership project. Ontario, Canada. In an email correspondence, Michelle Forge from CODE explained the genesis of the term, *Essential for Some, Good for All* (ESGA). Specifically, CODE's process involved a great deal of conversation with teachers, principals and superintendents in the field. One particular component of the process involved two members of the Leadership Team visiting one school board in each of our six regions. This part of the process we called *Voices from the Field*. During each visit the two Leadership Team members meeting with a central office team and visiting at least one and often two schools.

At each visit, boards were asked to share components of their projects using a template for discussion that the Leadership Team had devised. In the discussions at both the board and school levels, the Leadership Team heard repeatedly from teachers and administrators that while they had perhaps started using a strategy with just one or a few students, they often found that the strategy was useful for many other students. These comments were independent of the focus of the project. The Leadership Team heard about this from boards with a focus on assistive technology, oral language in kindergarten and learning disabilities in the secondary school to name just a few. Some examples of teacher and administrator reflections included:

- sound field systems that were essential for some students improved speech understanding, attention, behaviour, and learning outcomes for many other students, and improved teacher vocal health;
- modified transition processes for students with very high needs provided models for more effective entry/transition processes for all;
- adaptations to the classroom environment essential for some (e.g., visual reminders) improved attention and focus for many others;
- speech and language pathologists working in the classroom provided support for oral language for all students and valuable modeling and coaching for teachers; and,
- some processes designed to be sensitive to the needs of aboriginal populations were applicable to all and improved trusting relationships with many parents.

The Leadership Team began to share these reflections with others across the province and the ideas resonated with many. As the project moved into the second and third years, personnel from across the province began to use variations of the same theme of "essential for some, good for all" as they described and shared their project processes and outcomes. Indeed, voices from the field had truly come together as one voice and the concept became a cornerstone of CODE's work.

[2] The survey instrument was in English and was not administered to the Francophone board.

Chapter 3. The architecture of change

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[5] IN9
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Cross-case theme 1: Curriculum and pedagogy

[67] EfA, p.1
[68] EfA, p.3
[69] EfA, p.11
[70] EfA, p.127
[71] EfA, p.14
[72] EfA, p.14-15
[73] EfA, p.14
[74] EfA, p.17
[75] Board
[76] Board
[77] Chapter 3, Table 3, p. 35-36
[78] Board 1
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[80] Board 3
[81] Board 8
[82] Board 7
[83] Board 1
[84] EfA, p.10
[85] Board 2, Board 9
[86] EfA, p.14
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[88] Board 8
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[115] Board 8
[116] Board 2
[117] Board 2
[118] Board 8
[119] Board 2

[120] Board 1
[121] IN19
[122] IN19
[123] IN13
[124] Board 2
[125] Board 8
[126] Board 6
[127] Board 2
[128] http://www.hcdsb.org/Board/Publications/2010-Director's%20Annual%20Report.pdf
[129] Svy
[130] Interview 9
[131] Board 7
[132] Board 7
[133] Board 8, 135
[134] Board 7
[135] Interview 15
[136] Board 2
[137] Board 7
[138] Board 7
[139] IN40
[140] Board 8
[141] Board 10
[142] Board 7
[143] IN6
[144] IN6
[145] IN15
[146] IN81
[147] IN9
[148] IN52; policy, p.74
[149] IN15; policy, p.74
[150] Board 5
[151] Board 2
[152] Interview 12

Cross-case theme 3: Professional culture, capital, and development

[153] IN3
[154] Board 3
[155] Board 8
[156] Board 5
[157] Board 4
[158] Boards 2 and 8
[159] Boards 4, 3, and 5
[160] Board 4
[161] Board 2
[162] Board 5
[163] Board 6
[164] Board 4
[165] Board 2
[166] Open ended survey
[167] Board 1
[168] Board 3
[169] Board not named for anonymity purposes
[170] Board anon
[171] Board anon

[172] Survey data
[173] Board 8
[174] Board 8
[175] Board 2
[176] Board 8
[177] Board 8
[178] Board 7
[179] IN4
[180] Board 10
[181] Board 10
[182] Board 8
[183] Board 4
[184] Board 4
[185] Board 5
[186] Board 1
[187] Board 5
[188] Board 6
[189] Board 6
[190] Board 5
[191] Board 10

Cross-case theme 4: Cultures of data use

[192] Board 6, Board 2, Board 10, Board 4, Board 1
[193] Board 6, Board 2
[194] Board 3, open-ended survey response
[195] Board 7, open-ended survey response
[196] Board 6
[197] B0ard1, Board 2, Board 6
[198] Panel 5.2, Q17_6
[199] Board 4
[200] Board 1
[201] Board 1
[202] Board 5
[203] Board 2
[204] Board 2
[205] Panel 4. 4, Q18_1
[206] Board 4
[207] Board 4
[208] Board 4
[209] Board 3
[210] Board 10, Board 4, Board 9
[211] Board 9
[212] Board 9
[213] Board 2, Board 6, Board 3
[214] Board 5
[215] Board 4
[216] Panel 5.4, Q18_2 & Q18_4
[217] Panels 6.3 & 6.4
[218] Ontario Ministry of Education, EfA, p. 52
[219] Board 2, Board 4, Board 5, Board 6, Board 10
[220] Panel 5.3, Q25_7 & Q25_8
[221] Board 0
[222] Board 2, Board 10, Board 4, Board 5
[223] Board 5

[224] Board 5
[225] Board 5
[226] Board 2
[227] Board 10
[228] Board 9, Board 3
[229] Board 10, Board 1
[230] Board 1
[231] Board 5
[232] Board 6
[233] Board 9
[234] Board 1
[235] Panel 5.4, Q18_5
[236] Board 10 and Board 5 (case studies), Board 6, Board 4 (open-ended survey items)
[237] Board 5
[238] Board 4 open-ended survey items
[239] Board 5, Board 10
[240] Board 1
[241] Board 6
[242] Board 8
[243] Board 8
[244] Board 3
[245] Board 6
[246] Board 6
[247] Board 7
[248] Board 10
[249] Board 9, Board 4
[250] Board 4
[251] Board 3
[252] IN9
[253] see Michael Barber
[254] IN52

Cross-case theme 5: Responsive diversity practices

[255] Pearsonfoundation.org/oecd/Canada.html
[256] http://www.attorneygeneral.jus.gov.on.ca/inquiries/ipperwash/policy_part/research/pdf/Spotton_Profile-of-Aboriginal-Peoples-in-Ontario.pdf
[257] CODE Report
[258] Board 1 stats
[259] http://peel.cioc.ca/record/CDR0115
[260] Board 2
[261] BBY
[262] BB11
[263] IUb
[264] IUb
[265] K, Interview 5
[266] IUb
[267] Board 4
[268] Board 4,PRetire
[269] Board 10, Interview 2
[270] Board 10, Interview 2
[271] Board 10
[272] DI Binder Archival Data
[273] Board 1
[274] IN11

[275] Board 9
[276] Board 10, Interview 3
[277] Board 10, Interview 3
[278] BU7
[279] BU7
[280] BU2
[281] Board 7
[282] Premeeting

Cross-case theme 6: Inclusion and accountability

[283] Senior administrator, Board 10
[284] Assessment coordinator, KPDSB
[285] SAT group, Board 10
[286] Sped supt, Board 10
[287] Sped, Board 8
[288] Director, Board 5
[289] HR director, Board 5
[290] Sup of Sped Board 10
[291] Consultants, Board 8
[292] Director, Board 10
[293] Teacher, Board 10
[294] Teacher, Board 10
[295] Teacher, Board 8
[296] Teacher, Board 8
[297] Teacher, Board 8
[298] Administrator, Board 10

Glossary of terms

[299] http://www.ncdsb.on.ca/ntip/newteachers/assessment/CASI.pdf
[300] http://www.pearsoncanadaschool.com/index.cfm?locator=PS1zOw&PMDbSiteId=2621&PMDbSolutionId=25862&PMDbSubSolutionId=&PMDbCategoryId=25873&PMDbSubCategoryId=26107&PMDbSubjectAreaId=&PMDbProgramId=46757
[301] http://en.wikipedia.org/wiki/DIBELS
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[303] http://www.nelsonprimary.com.au/1/132/14/pm_benchmark.pm
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[305] https://www.wbtt.ca/Home.aspx