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Characteristics of High Performing School Systems in Ontario

Part 1
Final Report

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Part One: Final Report

1. Purposes

Districts, it has been claimed, "are uniquely positioned to ensure equity and to increase the capacity of all schools – not just some".[1] But systematic evidence about the characteristics of school districts or school systems capable of achieving this ambitious mission – and how such characteristics develop – has been collected almost exclusively in U.S. contexts using similar and relatively weak research designs.[2] This is especially troubling just at the time in Ontario's educational reform trajectory when, some analysts argue[3], school systems ought to be assuming much more leadership for determining future directions. The general purpose of this study was to provide a more robust empirical foundation for the province's school systems in their exercise of such leadership. The study had three more specific objectives:

- to describe key features of high performing Ontario school systems;
- to identify how these districts came to be high performing; and
- to clarify those features of districts and their contexts (e.g., size, provincial policies, role of the director or system leaders, role of professional learning) which influence their performance, as well as improvements in their performance.

The main outcome or product of this study is a *District Effectiveness Framework* (DEF) to be included as part of the *Ontario Leadership Framework* replacing the existing System Practices and Procedures. Intended as a complement to the province's School *Effectiveness Framework* (SEF), the DEF will serve as a guide for school system improvement and is included as an Appendix to this report.

A much more detailed account of the study and its results can be found in Part Two (Technical Report)

2. Framework

The starting points for framing this study were three recent syntheses of evidence about school system conditions which influence their success in improving student learning[4]. Because all three syntheses were based primarily on U.S. data, developing the framework for this study entailed modifications and additions to these data bases specifically aimed at capturing the policy context and wider environments in which Ontario school systems found themselves at the time of the study.

[1] Childress, 2010, page 1
[2] See Leithwood (2010)
[3] See, for example, Barber (2010)
[4] (Leithwood et al, 2004; Leithwood, 2010; Rorrer, Skrla & Scheurich, 2008).

These modifications and additions were the outcome of a content analysis of relevant Ontario educational policy, as well as a series of "focus group" interviews[5] with senior directors of education in the province. Modifications and refinements were also made in response to feedback provided about a draft of the framework discussed at an annual meeting of the Council of Ontario Directors of Education (CODE). Ministry of Education staff also reviewed early drafts of the framework.

The framework resulting from these vetting processes included four broad dimensions, each of which includes from two to four "elements" or sub-dimensions (12 in total) summarized below.

Core Processes, as the label implies, are those characteristics of school systems that have the most direct effect on the quality of teaching and learning including:

- Creating widely shared system directions (mission, vision, goals for students);
- Building curricula and instruction capable of achieving system directions;
- Ensuring the use of systematically-collected evidence to inform decisions and help solve problems throughout the system.

Supporting Conditions enabling the Core Processes include:

- Organizational improvement processes such as strategic, board and school improvement planning;
- Professional development for all staff in relation to the capacities they need to help accomplish the system's directions;
- Alignment of system policies and procedures in support of system directions.

Leadership from two distinct sources:

- Professional leadership, especially the leadership of superintendents and directors;
- Elected leadership provided by the board of trustees.

Relationships among those in the system and between the system and external stakeholders including:

- Internal system and system-school relationships;
- Relationships between the system and parents;
- Relationships between the systems and external (mostly local) community groups);
- Relationships with the Ministry of Education.

3. Research Methods

The research design used for this study was intended for two purposes. Requiring large-scale empirical evidence, one purposes was to test the extent to which the characteristics of high performing systems included in the framework for the study explained variation in two student-related outcomes. The second purpose, requiring primarily qualitative case study evidence, was

[5] The context for these focus group interviews was a six-day seminar for the region's directors of education sponsored by the *Institute for Educational Leadership* (IEL) and the *Council of Ontario Directors of Education* (CODE) with the author serving as a resource.

to provide an in-depth understanding of high performing school systems and how they developed over time (a period of about five years).

Testing System Effects on Students

The intended sample for this part of the study was all elementary and secondary principals (4625) and system leaders (531)[6] in the province's 72 school systems. The sample actually achieved included:

- 1543 principals (approximately 33% of the total province's principal population and about 44% of the principals in districts that chose to participate in the study);
- 235 system leaders (approximately 44 % of all superintendents and directors in the province and about 59% of those in participating school systems) in 52 school systems (72 % response rate).

Data collected for this part of the study were responses to two surveys, one for principals and one for system leader, about the status of the characteristics of high performing school systems described in the framework for the study. This part of the study also included evidence about student achievement on EQAO literacy and math tests at grades 3, 6, 9 and 10 (OSSLT); this was 2010 annual achievement data, as well as data about changes in achievement over five years (2005 – 2010). Systems' credit accumulation rates also were examined but results indicated no relationship between these rates and the system characteristics framing the study, so this report makes no further reference to them.

How School Systems Become High Performing

Three "high- performing" Ontario school systems were selected for more in-depth study based on five-year trends in their EQAO achievement results[7]. "High performance" was defined as taking three different forms on the assumption that the improvement challenges facing system leaders differed depending on their students' average achievement profiles five years prior to the study, as follows

- *The "Large gains from a below average starting point" profile*. Nipissing Parry Sound Catholic District School Board (referred to hereafter as "NP") was selected because it had below provincial averages in 2004 - 05 improving to about provincial averages by 2009 - 2010; this system had a total change score of 109 over the five-year period beginning from a below average level (52), as compared with the province as a whole (58);
- *The "average to good" profile*. Trillium Lakelands District School board (hereafter referred to as "TL") was selected because it was at the provincial average in 2004 - 05 rising to substantially above provincial averages by 2009 - 10; this system had a total change score of 75 over the five-year period beginning from the provincial average of 58.
- The "good to great" profile. Conseil des écoles catholiques de langue française (CECC) du Centre-Est (referred to in the report as "CECC") was selected because it began substantially above provincial averages in 2004 – 05 and rose even further by 2009 - 10; this system had a total change score of 92 over the five year period beginning from an above average level (64), as compared with the province as a whole.

[6] This number includes 459 superintendents and 72 directors of education

[7] Ladd's (1996) evidence indicates that when the focus is on changes in student achievement, as distinct from levels of student achievement, student background variables such as socio-economic status, explain non-significant amounts of variation in achievement.

Selection of systems for case study research was not based solely on changes in EQAO scores, however. Ontario has both public and Catholic English speaking school systems and Catholic systems dominate the high end of the achievement distribution. As well, the province has Francophone school systems. Acknowledging these complexities, the sample of three systems includes one Catholic English speaking systems (Systems 1), one public English speaking system (System 2) and one Francophone system (CECC).

Interview data were collected in these three districts with principals, senior district leaders and trustees. While the total number varied for each system depending on its size, on average interviews were conducted with approximately:

- three trustees (selected by the director/superintendent as the most knowledgeable about the system's improvement efforts);
- five senior district administrators (superintendents and director);
- one or more senior leaders with provincially defined responsibilities (e.g., the SEF lead);
- twelve principals, both elementary and secondary, selected randomly from the cohort of school administrators who had been in that role in the district for at least three years.

Case study analysis also included a content analysis of key system. A draft of each case was returned to each system for review, correction, and other reactions prior to finalizing the case.

4. Results of Testing System Effects

Reliability of Scales Measuring System Characteristics

Crucial to both the results of the study and how those results are interpreted is the quality of the measures used, including the internal reliability of the measurement scales. Most of the scales used in the two surveys used in this study were composed of from five to ten individual survey items. A reliable scale is one in which responses to all individual items in a scale are similar, typically estimated using a statistic called Cronbach's Alpha. Internal reliabilities are reported like correlations with .6 widely considered to be a minimum acceptable level of reliability (1.0 would be maximum).

When the four broad categories of system characteristics were treated as single scales, measures of only two categories exceed (by a small amount) the minimum acceptable level, Core Processes (.73) and Supporting Conditions (.72). In contrast, all but one of the scales (Internal System and School Relationships) measuring individual system characteristics falls below the minimum acceptable level of reliability and most exceed the minimum acceptable level by a substantial amount.

Current Status of School System Characteristics

Based on principal and system leader survey evidence reported in much greater detail in the Technical Report, this section identifies the extent to which each of the proposed characteristics of high performing school systems were approaching their ideal or most effective state across the province, as a whole.

For interpretation purposes, system characteristics awarded mean or average (m) ratings of 3 or more on the 4 point scale used in the surveys, were considered moderately to highly developed. Ratings below 3 were considered to be an indication of relatively weak or low levels of development. This relatively high threshold for interpreting results positively was set because educators' ratings are typically skewed toward the positive end of most survey response options asking them to rate aspects of their organizations.[8]

Across all four categories of school system characteristics, the highest rated categories were Core Processes (m = 3.21) and Leadership (m = 3.04), both of which exceeded the stipulated threshold for being considered well developed. Falling just below this threshold were Supporting Conditions (m = 2.97) and Relationships (2.95).

Evidence about the development of characteristics within each of the four categories can be summed up as follows:

- *Core processes.* Ratings of system characteristics included in this category were highest for System Directions (m = 3.27), followed by Curriculum and Instruction (m = 3.18) and Uses of Evidence (3. 04);
- *Leadership.* In this category, highest ratings were awarded to Professional Leadership (m = 3.14), followed by Elected Leadership (m = 2.88);
- *Supporting conditions.* Two of the three system characteristics included in this category fell below the threshold rating of 3, including Organizational Improvement Processes (m = 2.89) and Professional Development (2.83). Alignment easily exceeded the threshold (m = 3.19).
- *Relationships.* Relationships with the Ministry (m = 3.31) and relationships within the central office and between the central office and schools (m = 3.09) were generally rated as quite positive . Relationships with Parents and Local Community groups were rated lower and approximately the same (2.70 and 2.69 respectively).

Across all 12 school system characteristics measured, categories aside, highest ratings were awarded to:

- System Directions (Beliefs and vision for students) (m = 3.27);
- Alignment (m = 3.19);
- Curriculum and instruction (m = 3.18); and
- Uses of evidence (m = 3.17).

Awarded the lowest ratings were:

- Elected leadership (m = 2.88);
- Relationships with parents (m = 2.70); and
- Relationships with local community groups (2.69).

School System Effects on Student Achievement[9]

Correlations (r) and Effect Sizes (ES) are used in this section to indicate the "effects" on, or relationships between, school system characteristics and EQAO math and language measures

[8] For evidence related to this claim see, for example, Desimone (2006).

[9] Although the language of " impacts" and "effects" is sometimes used in several sections of this report, it is correlations, with their well-known limitations for exploring cause-effect relationships, that are reported.

of student achievement. Table 1 describes average results across grades in the same area of achievement. Language scores were averaged across grades 3 and 6 reading and writing, as well as grade 10 (measured by the *Ontario Secondary School Literacy Test*). Math scores were averaged across grade 3, 6 and 9, with the grade 9 score restricted to Academic Math results, since Applied Math results were inconsistent across districts and did not reflect other achievement trends. Some analysts have argued that combining scores, as in Table 1, produces more stable and reliable measures of achievement.[10]

In addition to the correlations reported in Table 1, there are two columns reporting significant effect sizes (ES) for combined math and language results. One of these columns (fourth from left) reports significant effect sizes for achievement change scores over five years and one column (far right) for mean achievement scores in 2010.

An effect size statistic aims to describe the practical significance of a relationship or effect unlike a correlation which might be very weak, but statistically significant by virtue, for example, of a large sample size." Rule-of-thumb" interpretations suggest that an ES of less than .2 should be considered weak, .2 to .6 moderate and greater than .6 strong[11]. However, even variables with weak effect sizes may be practically consequential depending on costs and multiple variables with weak effect sizes might add up to strong effects.

Considering just the four broad categories of system characteristics, correlations and effect sizes reported in Table 1 indicate that:

- Core Processes are significantly associated with both language and math achievement change scores as well as 2009-10 annual achievement scores in both math and language (ES = .33 and .35);
- Supporting Conditions are significantly related to combined five-year change scores (ES = .28) and combined average annual achievement scores (ES = .21), but as the correlations in Table 1 indicate, these effects are stronger for language than for math;
- Neither Leadership (ES = .03 and .05) nor Relationships (ES = .08 and .16) are significantly related to change or annual achievement scores, although individual system characteristics within both of these categories do have significant relationships with achievement, as reported below.

It is important to reiterate that both Core Processes and Supporting Conditions, treated as scales, met the minimum acceptable level of reliability by a small margin, while Leadership and Relationships did not. So lack of reliable scales must be considered one possible explanation for the weaker effects on student achievement of the unreliable category scales. The reliability of scales measuring most of the specific characteristics is quite high.

Although the four broad categories of school system characteristics are used to organize the reporting of more detailed results below, they might not be empirically meaningful constructs in their own right.

[10] Robert Linn (2003) is one such person.
[11] See Cohen (1988) and Hattie (2009)

Core Processes

Table 1 indicates that all three Core Processes have significant relationships with some measures of achievement and have comparable, moderate effect sizes ranging from .27 to .40;

- Curriculum and Instruction is significantly related to three of the Table 4 measures.
- System Directions also is significantly related to three of the four measures.
- Evidence Use (as reported by principals but not system leaders) is significantly related to all four achievement measures.

These empirical results conform closely to what would be expected conceptually, that is, the greatest influence on student achievement from system characteristics most directly experienced by students.

Supporting Conditions

Table 1 indicates significant relationships with achievement in the case of two system characteristics:

- Alignment is significantly related to all measures of achievement except change in math (ES = .32 and .35);
- Professional Development is significantly relate to the two language scores but neither of the math scores (ES = .30 and .29).

Relationships

As Table 1 indicates, the only relationships significantly related to student achievement are relationships between parents and the school – significant in the case of three of the four achievement measures with moderate effect sizes of .26 and .29.

Leadership

Evidence in Table 1 reports only weak relationships between the two leadership variables measured by the survey and any area of student achievement, an issue taken up in more detail below.

Leadership Effects On System Characteristics

The status of system characteristics measured in this study is undoubtedly influenced by many "forces", for example: constraints and opportunities provided by the province, system cultures which may have deep historical roots, and both strong and sometimes contradictory community expectations. System characteristics most certainly interact in complex ways, as well. However, system leaders are among the influences held most directly accountable for the status of system characteristics, not to mention student achievement.

Although results described in the previous section found almost no direct effects of system leadership on student achievement, expecting such effects is neither reasonable nor consistent with relevant leadership theory and evidence. Even the effects on students of school-level leadership is now understood to be mediated by school and classroom conditions.[12] It is, however, quite reasonable to expect system leadership effects on system characteristics. So this section examines evidence about the relationship between system leadership (professional and elected) and the status of system characteristics.

[12] See, for example, Hallinger & Heck (2010) and Leithwood, Patten & Jantzi (2010)

Table 1
System Characteristics and Four Combined Measures of Student Achievement[13]
(N = 49)

System Characteristics	All Language achievement change (5 years)	All math achievement (5 years)	*ES*	All language achieve. mean (2010)	All math Achieve. mean (2010)	*ES*
Core Processes	**.325***	**.321***	***.33***	**.364***	**.329***	***.35***
Beliefs/vision/ goals	.206	.328*	***.27***	.376**	.406**	***.40***
Curriculum & Instruction	.382**	.264	***.32***	.432**	.361*	***.40***
Evidence Use: System leaders	.055	.065		-.010	-.028	
Evidence Use: Principals	.437**	.356*	***.40***	.373**	.300*	***.34***
Supporting Conditions	**.402****	**.157**	***.28***	**.232**	**.178**	***.21***
Improvement Processes	.191	.012		-.044	-.073	
Professional Development	.392**	.210	***.30***	.334*	.236	***.29***
Alignment	.433**	.196	***.32***	.346*	.337*	***.35***
Relations	**.153**	**-.006**	***.08***	**.126**	**.184**	***.16***
Internal System	.146	-.030		.206	.195	***.21***
Parents	.370**	.133	***.26***	.284*	.296*	***.29***
Community	-.162	-.168		-.081	-.018	
Ministry	.037	.026		-.064	.020	***.05***
Leadership	**.064**	**-.010**	***.03***	**.028**	**.067**	***.05***
Professional	.058	.003		-.022	-.001	
Elected	-.017	.020		-.008	.084	

[13] * correlation is significant at the .05 level (2-tailed)
** correlation is significant at the .01 level (2 tailed)

Table 2 displays the results of calculating correlations between both professional and elected leadership and each of the three categories of high performing system characteristics included in the framework for this study. Effect sizes for Professional and Elected leadership combined are also included in the far right column of the table. These data indicate, in sum, that:

- Both sources of system leadership have moderate to strong effects on, or relationships with, all three broad categories of system characteristics and many of the 10 individual characteristics;
- Effect sizes for Professional and Elected leadership combined range from .29 in the case of Curriculum and Instruction to .60 in the case of Organizational Improvement Processes;
- Professional leadership has consistently larger effects (correlations) than does Elected leadership on all but two system characteristics (System Directions, Internal Relationships);
- Professional leadership effects do not reach statistical significance for principals' ratings of evidence use, internal relationships or relationships with either parents or local community groups.

Table 2

Relationships Between Leadership and Other System Characteristics[14] (Correlation Coefficients, N = 49)

	Professional	Elected	Effect Size
Core Processes	**.63****	**.46****	**.55**
Beliefs & Vision for Students	.50**	.63**	.57
Curriculum & Instruction	.34*	.23	.29
Uses of Evidence – Sys Leaders	.67**	.32*	.52
Uses of Evidence – Principals	.27	.09	.18
Supporting Conditions	**.63****	**.49****	**.56**
Organizational Improvement	.65**	.54**	.60
Professional Development	.39**	.25	.32
Alignment	.44**	.36*	.40
Relationships	**.49****	**.39****	**.44**
Internal System & School	.25	.33*	.29
Parents	.28	.11	.20
Local Community Groups	.13	.10	.12
Ministry of Education	.58**	.28**	.44

In sum, while the size of the sample for this study precludes more sophisticated modeling[15], results in this section suggest that system leaders may have quite significant effects on features

[14] ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2- tailed.

of their organizations which are known to improve student achievement. Furthermore, the extent to which Elected Leadership is related to, or influences, important features of the system may come as a surprise to those who remain skeptical about the value that trustees add to school systems' efforts to improve student achievement when they enact their roles as the framework for this study suggests is most effective.

5. Results of Cross-case Analyses

This section reports qualitative evidence collected from three school systems chosen because their student achievement profiles, over a five-year period, suggested that they were "high performing" relative to other comparable systems[16] in the province. This evidence includes interviews with trustees, system leaders and principals, along with key documents. Results are reported in the form of a cross-case analysis identifying similarities and differences across the three systems. Four sets of implications for system leaders are identified, as well, one set for each of the four categories of system characteristics. Detailed, individual case reports are included in the Technical Report. Throughout this section the systems are referred to by the labels NP, TL and CECC.

Core Processes

1. System Directions (Mission, Vision and Goals)

All three systems had developed a vision, mission and set of shorter-term goals that had become widely endorsed among trustees, as well as both system- and school-level leaders. Few people interviewed for the study had any doubts about the importance of these directions and just about everyone providing data for the study appeared to have a firm understanding of what their system was attempting to accomplish.

The processes through which such wide-spread knowledge, agreement and commitment were developed typically began in some formal goal setting process associated with "strategic planning". Two of the three systems had adopted a "policy governance" model (or "corporate" model) to guide trustee work, along with a strategic planning process that was largely responsible for both the clarity of system purposes and both the development and maintenance of staff commitments to those purposes.

The outcomes of such goal setting events increased in importance among system members as the systems took steps to embed the goals in annual improvement plans, monthly principals' meetings and leadership-initiated interactions in schools. The mission, vision and goals were "brought alive" and sustained through such consistent use as decision- making tools and as beacons for the future.

2. Curriculum and Instruction

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[15] Since the unit of analysis is the school system, the sample size for this study is only 49. In order to carry out the kind of path modeling techniques which would be useful in answering questions about the indirect effects of system leaders on student learning, a sample of about 100 would be needed.

[16] "Comparable", in this case, refers to their average levels of student achievement on provincial measures of reading, writing and math in 2006.

Over the five-year period of interest to the study, approaches by the three system to improving curriculum and instruction had changed quite significantly. These changes included greater collaboration across the system for school improvement purposes, greater consistency in priorities and expectations, and significant increases in support by system leaders for improvement work in schools.

These changes also included much greater use of systematically-collected evidence for decision making and more precise targets for school improvement. TL, for example, used student achievement trends evident in multiple data sources to which the system had access (EQAO, CASI, Iowa, math benchmarks), along with Ministry priorities, to aggressively develop a board improvement plan (which included "SMART" goals). Principals and their staffs were expected to explicitly acknowledge and build on system plans as they created their individual school improvement plans. Increasingly, as well, schools were encouraged to focus their improvement efforts on the needs of individual students, not just schools. CECC encouraged high performing schools to share their practices with schools experiencing less success as a means of building capacity.

The trend toward a more corporate-like approach to school improvement also appeared to be unfolding within schools, as well. There had been considerable effort made to break down the isolation in which teachers often found themselves with more collaboration and collective effort. And this collective effort was more focused on the types of instruction that would be useful to achieve the targets specified in the schools' improvement plans.

Expectations for instructional leadership from principals also increased quite substantially across the three systems. Principals were expected to have close knowledge of instruction in their schools' classrooms and considerable influence on its direction. Capacities for such leadership were developed with considerable system support. This occured within the context of a highly decentralized decision making process in CECC.

A question about the priority devoted to fostering students' "deep understanding of big ideas" was included in the interviews because of several initiatives underway across the province at the time of the study. These initiatives were pressing schools to more explicitly link their instructional improvement efforts to "higher level" or "more complex" goals or "big ideas" included in the provincial curriculum. Originating in the Ministry's *Literacy and Numeracy Secretariat* (LNS)[17] and the work of its student achievement officers, these initiative also had become a priority for the *Leading Student Achievement: Networks for Learning* (LSA) project. Efforts by districts to support school staffs in the development of *Teaching-Learning Critical Pathways* were intended to improve the instruction needed by students to master higher order curriculum goals.

This curriculum and instruction priority had become an increasingly important focus for the three systems, drawing significantly on the province's LSA project for both direction and resources. Some system and school leaders attended most provincial conferences held by the LSA project

[17] Now called the *Student Achievement Division*

and key project consultants were mentioned as especially helpful sources of professional development.[18]

The systems had also launched their own initiatives in response to this priority. In NP, for example, this was a priority for the system's literacy team and a regular focus of monthly principal meetings and the province's *School Effectiveness Framework* was also being used to help with the development of this focus in the system. TL principals spoke about the system's attention to critical literacy and Higher Order Thinking Skills (HOTs). This system awarded considerable value to developing higher order thinking skills and some staff, as in NP, associated this valuing with involvement in the Ministry's *School Effectiveness Framework*, as well as school walk-throughs. Also mentioned was the emphasis given by TL's curriculum department to the development of big ideas.

3. Uses of Evidence

Board members, managers and principals in the three systems were unanimous in their belief that their systems attached great importance to the use of systematically collected evidence to inform decisions across their systems, as well as within schools and classrooms. This evidence was also used to track improvement progress and assist in making instructional decisions for individual students.

Principals claimed that such data use had substantial effects on student, school and system progress. Dramatic increases in the use of systematically collected data and research literature to guide board, school and classroom improvements was viewed by most interviewees as one of the most important explanations for the achievement gains made by their systems. Superintendents explained that conversations with principals and teachers were much more precise and specific, as a result and most principals viewed their superintendents as partners and close collaborators.

The stimulus for greater data use differed across the systems. In the case of NP and CECC, adoption of a policy governance model which demanded transparent data about outcomes at the board table trickled down to schools and classrooms. In TL, the director (new at the beginning of the five-year period of interest to the study) considered the development of such data a key part of her efforts to build a critical chain of accountability and support from the central office to the classroom. Extensive data use had become part of the organizational culture and the daily decision-making process in the three systems.

This focus on data use was also prompted significantly by EQAO testing and provincial target setting. The importance of collecting and using high quality data was stressed in professional development initiatives for both principals and teachers and this was believed to have added considerable sophistication to teachers' understandings of how to use assessment to improve their own classroom practices.

Considerable amounts and varieties of support for data use in schools were provided by the school systems. One form of support was close alignment of the data to be collected with what schools needed for their purposes, not what some other level of the system needed. Multiple types of data were collected and used to help with decisions by the systems and within schools.

[18] Elaine Hein and Denis Maika

In addition to EQAO results, the status of student achievement typically was estimated using such other measures as CASSI, DRI, OWA, report cards and credit accumulation information. Also mentioned were several "exit surveys" of students and demographic information about students related to their chances of success. Results of these measures did not always concur and staff were encouraged to work at understanding the reasons for differences in results. Moderated marking by teachers was also encouraged in order to build consensus among teachers about standards of achievement to be expected of students.

There had been considerable growth over the previous five years in staff understandings and uses of data to inform decisions. At the outset, considerable amounts and types of data were being collected, but many school leaders and teachers were not sure how to use it effectively. Descriptions of how data use capacities were developed suggest that it was as much a social as a technical process. Progress was made with principals, for example, not just by providing in-service training. Rather, such progress was also a product of surrounding principals with "experts" so that they could learn the skills of instructional leadership in an authentic way. Over a five-years period staff learned how to interpret data and how best to use it for decisions. Leadership teams and teachers were provided time to think through what their data meant.

Core Processes: Implications for System Leaders

1. Spend whatever time it takes to ensure that the mission, vision and goals (directions) of the system are widely known, understood and shared by all members of your organization.
2. Insist on the use of your system's directions as fundamental criteria for virtually all decisions: you are the chief "steward" of those directions.
3. Develop and implement board and school improvement plans interactively and collaboratively with your school leaders.
4. Build your system's capacity and disposition for using systematically-collected data to inform as many decisions as possible. Train principals and staff on the use of data and research literature to sustain decision-making.
5. Make flexible, adaptive use of provincial initiatives and frameworks ensuring that they contribute to, rather than detract from, accomplishing your system's directions

Supporting Conditions

Supporting conditions about which data were collected included organizational improvement processes, professional development and alignment of human resources, structures and funding allocations.

4. Organizational Improvement Processes

Only district leaders were asked questions specifically aimed at describing approaches to system and school improvement processes. Much of what has already been reported by principals and central office leaders captures key features of these processes and how they evolved over the five-year period of interest to the study.

All three systems used some form of strategic planning process as a starting point and touchstone for developing and monitoring progress with a board improvement plan. School-level improvement plans were expected to build on and be consistent with board improvement plans and priorities. Board and school improvement processes aimed at moving toward the system's

directions were highly interdependent and very "organic". Both board and school goals and priorities remained constant over significant periods of time but the actions taken to accomplish those goals and priorities were constantly assessed and refined. In these systems, board improvement planning, school improvement planning and the implementation of those plans were interdependent, data driven and continuous.

The ongoing monitoring and refining of school improvement processes was enabled by monthly meetings of school and system leaders largely devoted to assessing and refining these plans, along with relevant professional development. All schools had created leadership teams intended to act as "professional learning communities" on behalf of their schools. Superintendents were a significant presence in most schools, especially NP, and their focus was invariably on the schools' improvement plans, the improvement of instruction and evidence that would help illuminate the challenges and progress being made with such improvement. Lack of progress was detected and acted on quickly.

The three systems made the most of well-designed externally-developed procedures for stimulating carefully targeted improvements (e.g., TLCPs, SEF, SIM). They had also developed their own improvement procedures or guidelines to supplement those which had been externally developed.

The work of both central office and school-level academic administrators was consistently defined as instructional leadership. This was one of the most noteworthy changes over the five-year period of time of interest to the study, along with a laser-like focus on improving student achievement as the primary focus of improvement efforts. School leaders who experienced difficulty with an instructional leadership role were quickly identified and individualized actions were initiated to help them acquire the new capacities required for this role.

5. Professional Development

Extensive professional development was provided for teachers and school leaders in the three systems. This included a wide variety of opportunities, both in and out of school, but with the greatest proportion of PD resources devoted to school-embedded opportunities usually provided in some form of "learning community".

Evidence from NP indicated that two shifts had occurred over roughly a half dozen years in the content and delivery of professional development within the system. The content shift was from some combination of centrally-determined and/or preference-based PD content to the very close alignment of PD content with the capacities needed to achieve board and school priorities. Identification of the capacities to be developed typically arose from examinations of evidence about what was working and not working, with PD initiatives aimed at remediating what was not working.

The PD delivery shift was from the provision of PD, particularly for teachers, primarily in locations outside of schools, to a much larger proportion of PD being "job-embedded – undertaken in school or school-like contexts where newly acquired capacities had to be implemented if PD was to make much difference. All formally assigned PD days were school based, for example, and schools controlled most of the agenda for those days. Schools'

professional learning communities were frequently cited as key locations for teacher PD and school coordinators were expected to be important PD resources for each school.

Monthly meetings of principals in all systems were significant forms of job-embedded PD for the leaders who attended. These meetings aimed not only to provide PD aligned with system and school priorities but also to further the improvement plans of schools and the system. Authentic engagement by participants in solving the system's improvement problems was the mechanism for accomplishing both of these purposes. As well, the close partnership-like relationship that principals enjoyed with their superintendents in their school improvement efforts provided principals with an "at-the-elbow" form of coaching in the exercise of instructional leadership.

As this description makes clear, the systems' approached professional development as a key function of their improvement efforts and crafted forms of professional development for both teachers and administrators consistent with the best available evidence about effective professional development. PD was an integral part of both school and system improvement problem - solving processes. The close monitoring of progress toward improvement goals by the system created an indirect but powerful means of holding staff accountable for actually applying the capacities acquired through PD.

6. Alignment

Allocation of resources was impressively aligned with the boards' focus on improving instruction and student achievement in all three systems. Almost all principals in the three systems believed that their systems provided them with as much support as they requested. In almost all cases, principals' requests for additional resources were not only approved but provided very quickly. These systems also aligned their personnel resources around their main priorities as, for example, the assignment of itinerant teachers to all schools to build instructional capacities in math and literacy.

Supporting Conditions: Implications for System Leaders

1. Create structures and norms within your system to ensure regular, reciprocal and extended deliberations about improvement progress within and across your schools, as well as across the system as a whole. These structures and norms should result in deeply interconnected networks of school and system leaders working together on achieving the system's directions.
2. Use the networks you create as the primary mechanism for the professional development of your school leaders.
3. Regularly monitor the alignment of the system's policies and procedures. Refinements of directions or improvement processes may well prompt the need for some re-alignment by your board.

Leadership

7. Professional System Leadership

Much less evidence is available to judge the effects on student learning of professional system leaders, as compared with school-level leaders. Recent research has begun to describe,

however, the important effects of what system leaders do on the capacities and work of school-level leaders[19]. Similarly, while evidence about the effects of elected leaders on student performance is mostly inferential in nature more direct and recent research suggests that it may have a greater influence than typically has been assumed[20].

Central office leaders in the three systems were asked to describe what the system looked for in their prospective leaders, as well as the systems' approaches to recruiting, selecting, preparing and appraising both system and school-level leaders. These interviewees were also asked how these approaches had changed over the past five years. Significant similarities, as well as differences, were evident among the systems.

Largely similar were those qualities the three systems were seeking in their school-level leaders and prospective leaders (many of these qualities, respondents noted, were included in the *Ontario Leadership Framework*). NP respondents, similar to those in the other two systems, spoke about the ability to communicate the system's vision for students, the ability to help craft the directions for improvement work and a capacity for, and disposition toward, helping others with this work. Both school and system leaders, respondents indicated, needed to be exemplary teachers able to model good instruction to others. In CECC, for example, inter-school collaboration and transparency were imbedded in the organization's culture and individual schools could not work in isolation.

System leaders, in particular, needed to be adaptable and flexible, maintaining multiple priorities at the same time and able to collaborate productively with others. Interviewees said that these leaders also needed to have broad experience, refined relationship skills, and the ability to add value to the conversations and decisions of the senior leadership team. Commitment to "Catholicity" was a very important quality for all leaders and prospective leaders in both Catholic systems. Preservation of the French language and culture was an added priority for CECC.

Substantial differences among the systems were evident, however, in their approaches to the recruitment, and selection of new leaders. These differences were most obviously a function of leader stability – exceptionally high in System 1, but less so in the other two systems. In NP, there did not appear to be any formal strategies for recruiting and selecting leaders because so few new leaders had been needed over the previous five years. Progress in meeting system and school improvement goals formed the basis for ongoing appraisal of existing leaders.

TL, in contrast, had a relatively longstanding set of procedures in relation to school-level leaders, which had been" fine-tuned" over the five-year period of interest to our study. A retired superintendent on contract with the system, and in collaboration with the director, took responsibility for encouraging teachers to consider school leadership roles and for coaching them through the application process. While this was a version of being "tapped on the shoulder", teachers also had the opportunity, with their principals endorsement, to self-select themselves. Either way, these people then entered an aspiring leaders program which began with an informal

[19] Coffin & Leithwood (2006), Leithwood, Strauss & Anderson (2007); Orr and Orphanus (2011)
[20] See Land (2002) and Saatcioglu, et al (2011).

visit from a superintendent. The program entailed, as well, book study, exchanges, central appointments, two skill assessments and other procedures.

The major challenge for TL was actually finding enough suitable candidates to fill the positions becoming vacant. While not entirely independent of the recruitment process, this problem was considered much more complex than the existing recruitment process could solve and was a top-of-the-mind dilemma, with no clear solution for the senior staff who were interviewed.

CECC's approach was somewhat similar to TL's. It had a well-structured program and strategies to identify, recruit and train potential leaders long before any vacancy postings. Candidate had to pursue additional study and qualifications, if needed, and then go through a screening process with an outside consulting firm to be eligible for a leadership position.

It seemed likely that province-wide efforts to develop a common appraisal process for principals would have some influence on these systems' future approaches to school leader appraisal but none of the interviewees explicitly spoke about this.

8. Elected System Leadership

Central office leaders and trustees were asked a series of questions about the focus of trustees, their relationships with staff and parents, and aspects of the system in which they were most engaged. These questions were asked during the same period in which the provincial Ministry of Education was developing new policy about school board governance, a policy aimed at sharpening trustees' accountability for student achievement and limiting their roles to policy development and evaluation. Our questions and the frame of reference of our respondents were significantly influenced by this provincial context. In all three systems trustees focused most of their attention on board policy and concerned themselves with ensuring the board mission and vision drove the system's improvement efforts, along the lines of the "policy governance" model which was most closely adhered to in NP and CECC, having been adopted many years earlier; they were considerably ahead of provincial policy on this matter.

In NP, for example, this approach to governance had been introduced over about a 14 month period following the appointment of the director of education in office at the time of the study. The board chair and the new director engaged trustees in extensive deliberations about such an approach and the decision to adopt it triggered extensive training for both senior staff and trustees. A governance consultant recommended by another school system was hired to assist with this training and to provide ongoing advice as the model was being implemented. The policy governance model, implemented in NP with a high degree of fidelity kept the board focused on goals and policy while senior administrators (the director in particular) regularly reported to the board progress in meeting goals established by the board.

Although TL was not as fully committed as NP and CECC to a policy governance model, evidence suggested that, over the previous five years, TL trustees had become more focused on board policy and were less preoccupied by operational issues and political concerns. They remained responsive to parents, as they always had, and acted as conduits to senior staff on issues raised with them by parents. Trustees still served on board-level committees such as the

Special Education Advisory Council and stayed fairly engaged in day-to-day issues but not for purposes of decision- making.

Leadership: Implications for System Leaders

1. Competent school leaders should be allowed to remain in their schools for significant periods of time since frequent leadership turnover has significant negative effects on a school's ability to improve its' student's achievement.
2. The *Ontario Leadership Framework* can be trusted as an effective guide for the selection, development and appraisal of school leaders.
3. While professional system leaders should be "team players", they should be able to make significant, independent, contributions to the team's efforts and provide effective instructional leadership to their schools.
4. Help trustees contribute to their system's progress by encouraging them to focus their work on supporting and monitoring progress being made in implementing the system's strategic multi-year plan and by nurturing the wider community's understanding and support for their system's efforts.
5. Systems adopting a policy governance model, should provide ongoing training for all elected board members, system leaders and staff. This approach fosters collaboration and interdependency between professional and elected system leaders.

Relationships

9. Internal System Relationships

All three sets of system leaders described relationships among themselves as "very strong" (or dense) something strikingly evident to us through our informal observations in the course of collecting the interview data. System leaders met weekly, a common practice in most systems. All three sets of system leaders also believed their relationships with principals were open and collaborative (or reciprocal); they aimed to be very accessible to principals and most principals agreed that they were. Principals in the three systems portrayed their relationships with senior system leaders as "phenomenal", "very close", "very good", "excellent", "great, and "very open", for example.

NP principals also cited the lengthy period of time that two of their three superintendents had been in the system in other roles, the small number of administrative leaders in the system and the levels of trust that had developed among them ("everyone knows everyone"); trust "lubricates" the connections among "nodes" (groups or individuals) in a densely connected network of relationships. As several NP principals said, "there is always someone available to talk to" and access to the senior team was "easy".

One NP leader summed up how she viewed her relationship with school leaders in this way: "Tell us what you need and we will get it for you". Reflecting this orientation in TL, as well, principals described responses by the central office to their queries as "almost immediate", "really quick" with many describing relationships with superintendents as frequent and "ongoing". CECC superintendents were very well informed about activity in their schools, as well as the approach to leadership of each of their principals. These principals invariably

considered their relationships with superintendents to be supportive, professional and collaborative.

Central office leaders in all three systems seemed able to balance a quite demanding focus on high expectations with a "servant leadership"- like orientation to relationships within their systems' schools. Signaling a sense of reciprocal accountability for meeting shared goals and high expectations, this orientation seems at least partly responsible for the high levels of relational trust evident among schools and with central office leaders in the three systems.

An important explanation for the satisfaction principals expressed about communication in the three systems was the structures that had been established to facilitate such communication. A number of these intentionally created structures encouraged frequent and much valued face-to-face flows of information and advice among principals and between principals and central office staff, especially superintendents. For example, principals pointed to their monthly (and sometimes more frequent) principal meetings with central office leaders as one key structure. TL principals, for example, made reference to the dissemination of curriculum-related information that occurred as part of the *Literacy Learning Team Network* (LLTN) to which every school was invited. A related structure, brought together all new school leaders with leaders of schools whose students were underperforming district expectations. Other communication opportunities arose, for example, through schools' participation in the Ministry's *Schools in the Middle* project and the uses that systems made of the Ministry's *School Effectiveness Framework* (SEF); SEF applications also prompted considerable professional development for school leaders and staffs, as well as considerable peer communication.

10. Relationships with Local Community Groups

In response to questions about local community groups, principals in all three systems identified a wide range of such groups with which their schools had some connection and which they valued. Among those groups in NP, for example, was the local university and the provision of access to schools in support of its research program, Children's Aid, the police, the Catholic Women's League, local service clubs, several different health agencies and children's services. TL principals pointed to the opening up of schools for community use through formal community agreements (forms available on the system website), the work of the board communication officer and the Special Education Advisory Council (SEAC). Strong and vibrant community relations were the corner stone for many of CECC's programs and initiatives since it was considered essential for maintenance of the French language and culture, the establishment, years ago, of a district-wide kindergarten program cited as one example of such initiative.

These community connections are common in many school systems. What seemed less common in the three systems, however, was the sense of importance both system and school leaders attached to their relationship with these local community groups as part of their efforts to accomplish the system's mission and vision. The label "community schools" was used by almost all principals in the three systems in reference to their organizations and access to schools by such community groups as scouts, ladies volleyball, square dancing groups and the like was expected. The responses of interviewees to questions about both parents and local community groups suggested much less social and psychological distance (more reciprocity) between this system's schools and those it served than is the case in many other school systems.

While most principals spoke approvingly of these and other system efforts to establish good relationships with external groups and agencies, few believed that this was a new development. These relationships, according to most principals in TL, for example, dated back many years. As with parent engagement, the school rather than the system may be the most productive locus for engaging external groups for most purposes.

11. Relationships with Parents

All three sets of system leaders, along with all principals who were interviewed, believed strongly in the importance of engaging parents in the education of their children. Leaders in all three systems attempted to encourage such engagement through their schools, as well as through system-wide initiatives directed toward parent engagement.

At the system level, for example, TL held parent workshops with a focus on character development in three sites around the system with a speaker at each event and established a parent engagement grant that schools could apply for to use on their own parent engagement efforts. All three systems convened a system-wide parent council one to three times a year. Among a handful of other initiatives, TL and CECC also created websites for parents which principals considered to be very helpful. An NP leader described the board's efforts to be transparent in its; decision-making, to communicate with parents in ways that nurtured their engagement, and to provide extensive opportunities for such engagement (a communication protocol or process had been developed to help leaders work through contentious issues with parents).

Principals were generally impressed by the intention and effort their systems devoted to engaging parents. TL principals did not judge most of these efforts to be very successful because they attracted very few parents. NP principals judged their system's efforts more positively. Whether system efforts were viewed as successful or not, they did have a strong influence on principals' beliefs about the strong priority awarded to parent engagement by their system leaders and the high expectations system leaders held for the parent engagement initiatives of schools.

The most promising efforts to engage parents in all three systems did take place at the school level. One TL principal, for example, described parent engagement as "strongly encouraged although not a "mandate" and working productively with parents was included as part of the professional development the system designed for principals from time to time.

Relationships with parents had clearly grown in importance over the five year period of interest to this study in all three systems.

12. Relationships with the Ministry of Education

Relationships with the Ministry of Education varied significantly among the three school systems and in several cases, from the perspectives of trustees, as compared with professional system leaders. Ministry relationships were generally regarded as very positive by NP and CECC leaders but more problematic by TL leaders.

NP trustees describe their relationship with the Ministry as "excellent" although "there is not too much contact". According to one trustee, the Ministry "got its act together" setting, for example, three clear goals for the province and the board was quick to accept its role in helping to "build confidence in public education" (one of the three goals). The general tone of NP trustee comments was one of support for what the Ministry was trying to accomplish, with some reservations about the number of new initiatives it had been launching. NP professional leaders agreed with trustees that Ministry relationships were quite good. Many of the remarks about these relationships concerned the regional Ministry offices in both North Bay and Sudbury. The Literacy and Numeracy Secretariat (LNS) was mentioned as an important resource, especially the student achievement officer assigned to NP and LNS's *School Effectiveness Framework*. No explicit mention was made of other parts of the Ministry, however.

Both challenges and opportunities were embedded in the NP's and CECC's relationships with the Ministry. The challenges arose from the number of initiatives, also mentioned by trustees, especially given the small size of NP and the relatively small number of people available to respond to the demands of these initiatives. The same concerns were expressed by CECC trustees and system leaders, even though CECC was significantly larger than NP. Aligning Ministry initiatives with board priorities was the primary strategy NP leaders identified as their solution. Initiatives often came with money attached, money that could be put to good use in the system. So the tension, according to NP leaders, was typically around getting access to those targeted dollars in ways that acknowledged the goals they were intended to accomplish but also helped the system pursue its own priorities; central system goals for math and literacy were an intentionally direct reflection of LNS goals in this area. Most of NPleaders seemed satisfied with the tradeoffs they had to make, since involvement in many of the Ministry initiatives were significant learning opportunities. *Schools in the Middle* was one example given of such a learning opportunity.

Among the most useful Ministry contributions to system development, according to several of the NP leaders, occurred around the board's improvement plan (BIP). Visits by Ministry personnel to review those plans and inquire about how they will be implemented provided the system with "an external set of eyes. The responses of central office staff and trustees in TL indicated that "the Ministry" was not a unitary and coherent entity to deal with from a their perspective. Noted at least several central office leaders, relationships with - and support from - regional office staff, special education services, and LNS student achievement officers were very positive.

TL relationships with the Ministry were generally considered to have improved over the least 5 years; the Ministry was described as more responsive, for example. But one central office leader believed that the Ministry needed to "plan ahead and not work in such silos". Small school systems such as System 2, respondents noted, had limited numbers of staff available to respond to the demands and requests that accompanied Ministry initiatives. However, one central office leader expressed "shock" at many of his own colleagues overly compliant responses to Ministry initiatives and their tendency to ask the Ministry for permission to do what they knew needed to be done. In fact, another interviewer noted that the downside to quick compliance to others' initiatives is that sometimes these initiatives change in response to experiences during early implementation and efforts are wasted. CECC professional and elected system leaders expressed

concern about Ministry intrusion in, or micro-management of, "files" they considered to be their responsibilities.

The one trustee who spoke about TL's relations with the Ministry was substantially more positive than most of the central office leaders, although would have preferred more coherence and longer lead times from the Ministry in rolling out new initiatives.

Implications for System Leaders

1. The terms "reciprocal", "collaborative" and highly "interactive" begin to capture the most productive type of relationship to be developed between system and school-level leaders.
2. Ensuring high levels of interaction among school leaders is important for system improvement. These interactions should include all school leaders and be driven by a shared sense of responsibility among school leaders for system improvement.
3. Supporting schools in their parent engagement initiatives will have greater effects on student achievement than independent system efforts to engage parents. The purposes for independent parent engagement efforts by the system should be realistic and defensible.
4. System/Ministry relationships should feature high level of reciprocity in the interests of achieving both shared and system-specific goals in the context of local system circumstances.

6. Conclusions

Three purposes were to be accomplished by this study:

- to describe key features of high performing school districts in Ontario;
- to identify how, and through what trajectory, these districts came to be high performing;
- to clarify those features of districts and their contexts (e.g., size, provincial policies, role of the director or system leaders, role of professional learning) which influence their performance, as well as improvements in their performance.

While these three objective capture the immediate goals for the study, its' broader purpose was to help in the development of a provincial *District Effectiveness Framework* (DEF) justified by robust evidence.

There were two main parts to the study. One part was a quantitative test of the effects of system or district characteristics on important student outcomes (achievement and credit accumulation), the first such large-scale test that has ever been conducted, to our knowledge. The system characteristics serving as a framework for the study were identified through a review of previous research, along with feedback, collected in several different ways, from a large proportion of the province's directors of education and knowledgeable others.

Results provide considerable support for most of the system characteristics included in the study's framework and illustrate how a small sample of high performing Ontario districts both developed and enacted these system features. In combination with the prior research and feedback used to help identify them initially, this evidence provides strong justification for using

the system characteristics examined in this study as the basis for the province's *District Effectiveness Framework.*

While most of the system characteristics included in the framework for the study are significantly related to important student-related outcomes, it is not likely necessary to "do everything". The study does point to the importance of creating widespread support for the system's directions early in the improvement process, but it does not have much to say about what to do next, or what to emphasize most in the face of the unique circumstances and histories found in every system in the province. It will come as no surprise to any system leader that considerable judgment still needs to be exercised if the results of this study are to add value to the effectiveness of their leadership.

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