FROM RESEARCH TO POLICY TO EFFECTIVE PRACTICE

IdeasIntoAction

FOR SCHOOL *AND* SYSTEM LEADERS

ONTARIO LEADERSHIP STRATEGY

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Ideas Into Action is published by the Ministry of Education to support Ontario's school and district leaders. It is designed to provide research insights and practical strategies for school and system leaders that are aligned with both the Ontario Leadership Framework (OLF) 2012 and the broader Ontario Leadership Strategy (OLS). Ministry-sponsored professional learning and resources are focused on five Core Leadership Capacities (CLCs) derived from the OLF: setting goals, aligning resources with priorities, promoting collaborative learning cultures, using data, and engaging in courageous conversations.

Ideas Into Action is likewise currently devoted to exploring these five CLCs as one of many supports being provided to assist leaders in further strengthening and integrating these capacities into their daily practice. Each issue has as its primary focus one of the CLCs and shows how it is derived from the Ontario Leadership Framework, which describes the full range of capacities leaders use to meet their specific challenges and leadership goals.

You will find more information about Leadership Development on the ministry website and on the website of the Institute of Education Leadership (IEL) at www.education-leadership-ontario.ca/. If you have any comments or suggestions, please contact us at: ldb-ddl@ontario.ca

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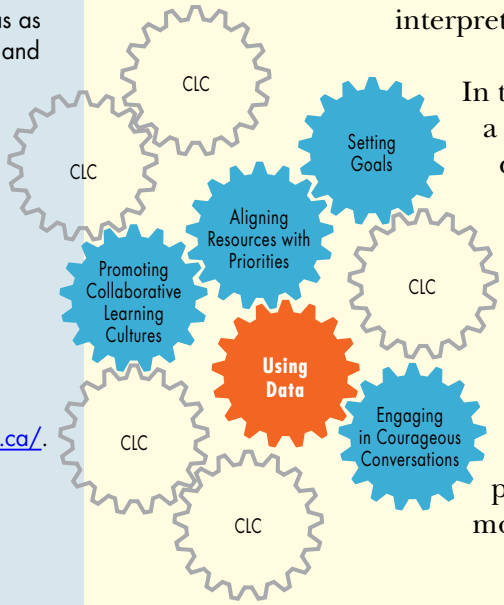
Exploring Five Core Leadership Capacities

Using Data: Transforming Potential into Practice

On the road to improved student achievement – whether in the classroom, school or district – it makes intuitive sense that an accurate roadmap is an essential tool. We need to know where we are now, where we want to be, and what key barriers and opportunities lie between those two points. At the same time, and despite the fact that evidence-based decision making has become a familiar feature of the education landscape, the research confirming the connection between student achievement and data use is surprisingly thin. What this suggests is that, while we acknowledge the value of data, much remains to be done in building our capacity to gather, analyze, interpret and use it to support improvement.



In this issue of *Ideas Into Action* we explore a sampling of the research evidence for data use as a Core Leadership Capacity (CLC), and many of the ways in which data have the potential to inform teaching, learning and leadership. We also consider some of the best available advice drawn from professional practice on how data can be used most effectively, and how we might put this knowledge to work in our own professional practice to realize our goals more efficiently and effectively.

WHAT'S INSIDE

The Case for Using Data: Research Perspectives

As education systems around the world have continued to evolve toward increasing accountability for student achievement, it is not surprising that more data are available than ever before – in our classrooms, schools and districts, and across education systems. The intelligent use of data affects the work of all professionals involved in education. There can be no going back to the days when decisions were made on hunches and anecdotal information.

The question that remains is whether or not we know what to do with data. Many researchers (for example, Louis, Leithwood, Wahlstrom, and Anderson, 2010) suggest that we do not yet have a clear picture of how the use of data for making instructional decisions can have the most direct impact on student achievement. Likewise, while we recognize the need for systematic data gathering and analysis at the classroom, school, district and system levels, the links between these efforts and school or system improvement remain unclear.

One of the issues pointed out by researchers is that much of what passes for "evidence-based" decision making is in fact based on our own beliefs and assumptions – as individuals and as a profession – about what works and what doesn't. Certainly, there is no shortage of case studies available to illustrate *how* data can and has led to improvement, but at this stage the question is *why* it works.

We also acknowledge that educators have "reams" of data that may not be used productively. In fact, as Michael Fullan (cited in Earl and Katz, 2006) has suggested, data can potentially lead to overload and confusion. So how can educational leaders find a line through the evidence on data gathering and analysis that will support our professional practice and help us take full advantage of the potential of using data?

This issue of *Ideas Into Action* focuses on that question. What does research say about how data can support effective leadership? What do research and professional practice say about how teachers and school and district leaders can use data to support decisions that lead to improved student achievement? Equally important, how can educational leaders put this knowledge to use in their daily practice?

In *Leading Schools in a Data-Rich World*, Earl and Katz (2006) explain their use of a painting metaphor for using data:

"Artists are always engaging with data – with the colours, textures, and images that they observe and investigate, and to which they respond. They use their talent to decide what to emphasize and how to communicate a mood and a message to the audience.

Educators can capture the myriad and changeable images that matter about a school and present these images to a range of audiences as the basis for ongoing decision making. Sometimes the paintings are completed individually, as teachers or leaders work on their own. In other cases, educators work in teams to create a collage or a mural of their thinking and their work.

In all cases, they draw on many sources of information to construct a coherent and distinctive image of where they are now, where they want to be in the future, and how they might go about bridging the gap."

This work is not easy or simple work, yet it can be done. And the data with which we are armed – especially the data we have amassed that allow us to know what has worked most successfully to help teachers and students – assist us in that work.

– Blankstein 2007

First Things First: Some Definitions

What is Data?

Educators collectively understand data – words, numbers, and observations – quite simply as information that is collected and organized in a systematic way and can be used to make instructional or organizational decisions. Of course, these data – both quantitative and qualitative – take many forms, including:

- **student achievement data** such as report card marks, learning skills and work habits, student work samples, Individual Education Plans, Student Success indicators, Grades 3, 6, 9 and 10 EQAO results, common board assessments
- **demographic data** such as trends in student population and learning needs, school and student profiles, data disaggregated by subgroups
- **program data** such as aligned and rigorous curriculum and effective instructional practice
- **perceptual data** such as results of student and teacher EQAO surveys and parent/community surveys.

(Adapted from the K-12 Board Improvement Planning for Student Achievement (BIPSA) Assessment Tool, Student Achievement Division, 2011)

What is a Data Culture?

Data are relatively simple to collect. The challenge lies in investigating the clues that data give about effectiveness and revealing the underlying story behind the facts and figures. As Hamilton, Halverson, Jackson, Mandinach, Supovitz and Wayman (2009) note, data by themselves are not evidence. Moving toward effective data use, they argue, requires the establishment of a data culture; that is, a mind-set about using data.

In their view, "a data culture is a learning environment within a school or district that includes attitudes, values, goals, norms of behaviour, and practices, accompanied by an explicit vision for data use by leadership, that characterize a group's appreciation for the importance and power that data can bring to the decision-making process." Data collection is recognized as a necessary part of an educator's responsibilities and includes the regular use of data to influence and inform practice as an essential tool.

What is Data Literacy?

Hamilton et al (2009) define data literacy as "...the ability to ask and answer questions about collecting, analyzing, and making sense of data." In their view "widespread data literacy among teachers, education leaders, and students is a salient characteristic of a data-driven school culture."

Data can be used for many important purposes including:

- **Discovering issues** to ascertain the needs of students, educators, parents, and other community members
- **Diagnosing situations** to understand the root causes of problems and finding out why some students are not doing well
- **Forecasting future conditions** to suggest trends that will impact the school and its programs
- **Improving policy and practice** related to teaching and learning and building a culture of inquiry and continuous improvement
- **Evaluating effectiveness** to provide feedback to students and educators about their performance
- **Promoting accountability** to monitor and document progress toward achieving goals.

– Adapted from Earl and Katz 2006

There is no value in assessing students if it does not impact learning and instruction.

– Fullan, Crévola and Hill 2006

While the deepest insight into schools and students can be gained by crossing different measures to gain a better-rounded picture of the school and its challenges, even a relatively simple analysis of school data can help teachers shape their practice more effectively.

– Bernhardt 2009

A Closer Look: Data in the Classroom

In the classroom, data can play a critical role in supporting professional judgment. Here, educators recognize that they need to go beyond their tacit knowledge and intuition. Lorna Earl and Stephen Katz (2006) whose research and writings are recognized extensively in the Ontario context argue that "there is not enough time for adaptation by trial and error or for experimentation with fads that inevitably lose their appeal. In today's 'knowledge society' evidence, data and information have become critical elements in decision making."

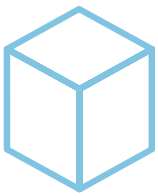
Professional Accountability

Earl and Katz (2006) also point out that, while data is an important component of professional accountability, it should be viewed, not as a judgment, but as an important tool educators can use to understand their current situation and devise a reasonable course of action. "Educational leaders and school staffs who are committed to professional accountability and making informed professional judgments think of accountability not as a static numerical accounting but as a conversation, using data to stimulate discussion, challenge ideas, rethink directions, and monitor progress, providing an ongoing image of their school as it changes, progresses, stalls, regroups, and moves forward again."

Levin (2008) recognizes and reinforces the notion that data can be used effectively to support both teacher and student learning. In order to improve, Levin says "people need honest and supportive feedback that helps them see where their current performance falls short – and where it is already strong."

Instructional Practice

Hamilton et al (2009) remind us that while data can be used to assess what students are learning and the extent to which they are progressing toward learning goals, making sense of the data "requires concepts, theories, and interpretive frames of reference. Using data systematically to ask questions and obtain insight about student progress is a logical way to monitor continuous improvement and tailor instruction to the needs of each student."



Teachers blaze the path to knowledge generation when pairs, small groups and entire faculties intentionally and purposefully use data as a source for analyzing progress and proactively planning for improvement.

– Wellman and Lipton 2004

Many of the assessments that teachers give can be powerful instructional tools. To realize their potential, though, teachers need to understand and use these assessments well. Bringing teachers together, providing them with guidance and support, and developing a process for studying and using assessment data is one way to move our schools forward. It's also a way for teachers to regain the sense of power and purpose that testing can sometimes deplete.

– Millner, Santi, Held and Moss 2009

The implementation of data-informed decision making cannot occur without leadership and supporting conditions such as tools for generating actionable data, professional development and technical support for data interpretation, and time set aside for analyzing and interpreting data.

– Means, Padilla, DeBarger and Bakia 2009

Equipped both with data and the tools necessary to yield the relevant information data can provide, they suggest that educators can make a variety of instructional changes aimed at improving student achievement, including:

- prioritizing instructional time
- targeting additional individual instruction for students who are struggling in particular areas of the curriculum
- identifying individual students' strengths and instructional interventions that can help students continue to progress
- gauging the instructional effectiveness of classroom lessons
- refining instructional methods
- examining school-wide data to consider whether and how to adapt the curriculum based on information about students' strengths and needs.

School Effectiveness

Effective use of data is one of the "big eight" (Calman, 2010) key factors identified in a recent literature review on school effectiveness conducted by the Education Quality and Accountability Office (EQAO). The review has the following to say about using data:

"Research has found that school effectiveness is strongly associated with the effective use of data at both the school and classroom levels:

- At the classroom level, in effective schools, teachers monitor student progress on a regular and ongoing basis in order to provide both differentiated learning experiences and appropriate support to meet the needs of students. Assessing and tracking of progress are undertaken with rigour, and data are analyzed with considerable care to identify students or groups of students who need specific help.
- At the school level, effective leaders ensure that both outcome and process data are made available for use by school staff and that assessment data are integral to monitoring the attainment of school goals. When data are being used effectively, decisions about the focus of instructional programs and practices, professional learning needs, resource requirements, intensity of support for students' needs and placement of support staff are grounded in data analysis."

It is school leaders who promote challenging goals, and then establish safe environments for teachers to critique, question, and support other teachers to reach these goals together that have most effect on student outcomes.

– Hattie 2009

School leaders can take charge of change and use data as a powerful tool for making wise and timely decisions…They can create their own future through careful planning, honest appraisal and professional learning, always focused on improved conditions for teaching and learning, as a way of being.

– Earl 2008

When it comes to teaching and learning, schools require assessment data to enable them to evaluate their performance as a school, to be accountable to parents for the progress of their students, and to manage teaching and learning within the school.

– Hill 2010

Triangulation is the term used for combining three or more student achievement measures to get a more complete picture of student achievement.

– Bernhardt 2003

Informed Decision Making: Data and School Leadership

In reporting on a large-scale investigation of the links between leadership and student learning, Louis et al (2010) assert that they are even more confident in their now-famous claim that leadership is second only to classroom instruction in its influence on what students learn in school.

The Essential Role of School Leaders

Among other dimensions of leadership examined in this study, Louis et al (2010) looked at how principals and teachers use data, how the district influences data-informed decision making by principals, and how student achievement is related to data use at the school level. They found that that the principal plays a key role in establishing the purpose for – and expectations surrounding – data use, and provides planned opportunities and time for working with data. This includes professional learning, opportunities to work through collegial groups, and access to expert knowledge. The importance of the principal's role is underscored by the finding that where principals did not make data use a priority, teachers were typically not doing it on their own.

A number of other studies confirm that school leaders who are most successful in using data effectively are those who engage their school staff in collaborative decision making (for example, Boudett, City, and Murnane (2005); Katz, Earl and Ben Jaafar, 2010). Furthermore, the evidence suggests that teachers will embrace a data initiative when it is well implemented, relevant to the learning needs of students, and useful in informing teaching practice – further supporting the argument that school leadership is a key success factor in using data effectively.

Supporting this view, Wayman, Brewer, and Stringfield (2009) identify the following four main dimensions of successful leadership practice in using data:

1. **Provide formal and informal structures to support data use;** for example:
   - At the district level, formal structures include technology, instructional vision, curriculum and school improvement and alignment.
   - At the school level, formal structures include centering data initiatives on specific measurable goals, building data structures from already-existing structures and new structures such as building capacity for "triangulation" of data.
   - Informal structures include encouraging collaborative work and using data in a non-threatening way.

The basis of learning conversations is the mutual understanding of each contributor's claims and the values, together with the reasoning and data on which they are based.

– Earl and Timperley 2008b

If educators are going to be active in interpreting and using data, as well as challenging and disputing interpretations or uses that they believe are contestable, they must become knowledgeable about judging the value and quality of the evidence and thinking and talking about its meaning. They need clarity of purpose, criteria to judge the quality of the evidence, knowledge about statistical and measurement concepts, and most importantly, they need to make interpretation paramount.

– Earl and Katz 2006

Having evidence and engaging in conversations will not, by themselves, improve schooling. Instead the merging of the process of deep collaboration with the evidence and inquiry can create the conditions for generating new knowledge.

– Earl and Timperley 2008b

Using data collaboratively gives teachers a "safety net" for taking risks and improving their practice.

– Steele and Boudett 2008/2009

2. **Focus conversations on instructional improvement;** for example:
   - Engage in early conversations prior to implementation of a data initiative
   - Centre open-to-learning conversations on instruction and practice
   - Foster collaborative conversations that inspire teacher leadership.
3. **Implement data initiatives purposefully so that:**
   - Teachers see the connection between data use and instruction
   - Infrastructures support data use both in terms of available hardware and data
   - Professional development integrates existing learning opportunities and offers many different times and ways for staff to learn the data system.
4. **Make time to:**
   - Align goals of data with district instructional goals
   - Offer professional learning that is tailored to teachers' personal contexts.

"Collaborative Inquiry" as a Vehicle for Using Data

If collaborative inquiry is the engine of teacher learning, argue Earl and Katz (2010), then data provide the fuel. Data alone, they suggest, do not answer questions. Rather, they provide lenses teachers can use to think about and understand their circumstances more fully.

Earl and Katz (2006) stress that data use should not be seen as separate from planning and routine decisions in schools. Rather, data should inform an ongoing process of analysis, insight, new learning and changes in practice. "Leaders who use data well believe that schools can make a difference. Their model of education change is focused on changing schools to help ensure better services and better learning for all students."

Earl and Katz (2010) draw support for their model of "collaborative inquiry" from the research of Timperley, Wilson, Barrar, and Fung (2007) whose best evidence synthesis, they say "provides a backdrop for thinking about how teachers and leaders can use data to identify what they need to know, make informed decisions about changes to practice, build their capacity and check on the success of their ventures over time."

Models of teacher-driven inquiry have existed for many years (see for example, Little, 1982). However, with increased support and attention to teacher collaborative processes both within schools and across them in hubs and networks the role of teacher inquiry is emerging as a critical part of the daily work of teachers. In effect, collaborative teacher inquiry is rapidly becoming a commonly held stance within professional practice in Ontario as we transform our conceptions of professional learning (Hannay, Wideman and Seller, 2010)

– The Literacy and Numeracy Secretariat 2010

…effective data-driven decisions that lead to real change require more than just data. Three key ingredients are essential:
1. The right people
2. The right data, and
3. The right interpretation.

– Malloy 2011

For data analysis to lead to real instructional improvement, even having common meeting time and great data managers may not be enough. Examining data collaboratively means treading a fine line. Teachers must take responsibility for their students' learning, but they must also have the latitude to refine and develop their craft. To build a collaborative culture and promote instructional improvement, the data-use process needs to emphasize solving problems, not passing judgment.

– Steele and Boudett 2008/2009

For Timperley et al (2007) the work of collaborative inquiry is a cyclical process that has student learning at its core. In their model, inquiry and professional learning are inseparable:

- The cycle begins with student learning needs: "What knowledge and skills do our students need?"
- Once these are understood, the teacher moves to an explicit articulation of the relationship between current teaching practice and the student's learning requirements: "What knowledge and skills do we need as professionals within this initiative?"
- A course for professional learning is charted that will both "deepen professional knowledge and translate into changes in practice."
- As practices change and students are better served, teachers move on to new considerations for student learning needs and proceed through the cycle again to engage students in new learning experiences.
- The cycle begins again.

Conditions that Promote Effective Data Use in Schools

Hamilton et al (2009) point to the following organizational conditions as necessary to promote effective use of student achievement data in classrooms, schools and districts:

1. Make data part of an ongoing cycle of instructional improvement.
2. Teach students to examine their own data and set learning goals.
3. Establish a clear vision for school-wide data use.
4. Provide supports that foster a data-driven culture within the school.
5. Develop and maintain a district-wide data system.

The central message of these writers is that effective data practices are interdependent among the classroom, school and district levels. As Levin (2008) cautions, "having data is not at all the same as knowing how to interpret or use the data and we are learning that the latter requires careful, sustained attention."

Strategies for Success: Overcoming Key Challenges

School leaders need to build teachers' mutual trust to a point where teachers are comfortable working with colleagues to examine data that reflect on their teaching performance.

– Means et al 2009

Analysis of data is bound up with questions about individual and collective performance, judgment and blame, feelings of inadequacy or superiority. These emotional issues require attention or they will overwhelm any thoughtful data analysis.

– Levin 2008

It is important to intentionally cultivate and practice an *inquiry habit of mind* – a habit of using inquiry – to engage in evidence-informed thinking about the current state, the ideal state, how to bridge the gap, and what progress is being made.

– Katz, Earl, and Ben Jaafar 2009

Information becomes knowledge when it is shaped, organized, and embedded in a context that gives it meaning and connectedness. The implications for leaders are vast.

– Earl and Katz 2006

Researchers and practitioners point to a number of common challenges faced by leaders in using data effectively, and offer insights on successful strategies for overcoming them.

Challenge One: Fear and Mistrust of Data and Evaluation

Why do we avoid data? Schmoker (1999) suggests that one reason is fear – fear of data's capacity to reveal strength and weakness, failure and success. "Data," he says, "almost always point to action – they are the enemy of comfortable routines. By ignoring data, we promote inaction and inefficiency."

Educators now embrace the use of data as an indispensable tool for school improvement. Yet, any expectation for improvement continues to generate fear in some; for example, will we, can we actually make an impact – a measurable impact?

Schmoker (1999) suggests the following as some ways to reduce these feelings of fear and anxiety without eliminating the accountability that is inherent in data use:

- model and encourage thinking differently about data
- use data to make the invisible visible, revealing strengths and needs which are easily concealed
- use data to promote focus and precision which can increase teachers' confidence in their abilities
- collect and analyze data collaboratively and anonymously by team, department, grade level, or school, or district
- allow teachers by school or team as much autonomy as possible in selecting the kind of data they think will be most helpful
- highlight success stories that include data at the forefront.

Challenge Two: Building a Culture of Data Use

Using data effectively entails developing a culture in which data are an integral aspect of analysis and decision making – a process rather than an event. To establish a data culture Earl and Katz (2006) advise leaders to:

1. Develop an inquiry habit of mind

For inquiry to be truly effective, it needs to become a way of doing business, a way of thinking, a habit of mind, rather than a discrete event. Leaders with an inquiry habit of mind:

- value deep understanding, allowing for a range of outcomes and maintaining a search for increased understanding and clarity
- reserve judgment and have a tolerance for ambiguity
- take a range of perspectives and systematically pose increasingly focused questions.

Effective data-informed decision making requires not only access to useful data but also well-designed supports such as leadership to model data use and supported time for reflection on data.

– Means et al 2009

Instead of overloading teachers, let's give them the data they need to conduct powerful, focused analyses and to generate a sustained stream of results for students.

– Schmoker 2003

Reeves (2008/2009) offers four tips for "navigating the data river":

1. Commit to data analysis as a continuous process, not an event.
2. Start with a clearly focused question.
3. Develop a school-wide culture of hypothesis testing, in which teachers consider their assumptions before they look at the data.
4. Go beyond the numbers to consider the causes of student success and failure.

2. Become data literate

Using data is a whole new approach to working in the culture of many schools. As Earl and Katz (2006) point out, "assembling good data and drawing it into a process of looking at the whole picture, understanding what the results mean and making responsible judgments and decisions is difficult and complex." Data-literate leaders are those who:

- think about purpose(s)
- recognize sound and unsound data
- are knowledgeable about statistical and measurement concepts
- recognize many kinds of data
- make interpretation paramount
- pay attention to reporting and to audiences.

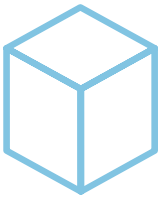
3. Create a culture of inquiry in their school community

Schools that are focused on professional learning, as a continuous and essential responsibility, have developed a culture of inquiry in which accountability is a process of using evidence to:

- identify priority for change
- evaluate the impact or decision
- understand students' academic standing
- establish improvement plans
- monitor and assure progress.

In order to create a culture of inquiry, leaders must:

- involve others in interpreting and engaging with the data – new insights don't happen by osmosis
- stimulate an internal sense of urgency – data can be a powerful mechanism for refocusing the agenda or recasting a problem
- make time – making sense of data and using them to come to a sense of collective meaning and commitment is not an overnight process
- have "critical friends" – trusted colleagues who bring a high degree of positive regard, are forgiving, and are tolerant of failings
- provide targeted professional learning supports that include:
  - an emphasis on applications and real-world data rather than mathematical theory
  - methods that allow practitioners to focus on discovery
  - a shift from calculation to interpretation
  - a dynamic process for experimenting and learning from actual data
  - data methods to uncover patterns and generate hypotheses.



Challenge Three: Too Much Data and Too Little Time

Boudett, City and Murnane (2005) suggest that in many cases the challenges associated with the sheer volume of available data may seem insurmountable. To address this challenge, they suggest:

- setting aside ample time for data use
- building a culture that focuses on improvement, rather than blame
- giving teams the professional development and support they need to be successful.

Although it can be difficult to create the conditions that support collaborative data use – including routine meeting times, skilled data management, and group norms that foster trust – they offer evidence from the schools in their research to demonstrate not only that such conditions are attainable, but also that the payoff in terms of organizational learning, and ultimately student learning, is too great to ignore.

They have found that organizing the work of instructional improvement around a process that has specific, manageable steps helps educators build confidence and skill in using data. In that light, they have developed "The Data Wise Improvement Process" which includes eight distinct activities school leaders can do to use their student assessment data effectively.

The Data Wise Improvement Process

Source: Boudett et al (2005)

The eight activities fall into three categories – Prepare, Inquire and Act – as illustrated in the chart shown below.

THE DATA WISE IMPROVEMENT PROCESS

PREPARE	INQUIRE	ACT
PREPARE is about putting in place the structure for data analysis and looking at existing data. **Key Challenge:** Communicating the need for a data initiative and creating data teams that are equipped to lead the work.	**INQUIRE** is about acquiring the knowledge necessary to decide how to increase student learning. **Key Challenge:** How to engage the entire faculty in honest conversations about data, particularly when "data can wound."	**ACT** is about what to do to improve instruction and to assess whether the changes put in place have made a difference. **Key Challenge:** Helping staff choose, implement and assess a viable action plan based on insights from the data they have gathered. This includes defining consistent instructional expectations across grades.

Organize for Collaborative Work	Build Assessment Literacy	Create a Data Overview	Dig into Student Data	Examine Instruction	Develop an Action Plan	Plan to Assess Progress	Act and Assess

LESSONS LEARNED

Organize for Collaborative Work:

- Patiently prepare.
- Choose the right data team.
- Focus on what's relevant.
- Share ownership.
- Establish productive routines.

Build Assessment Literacy:

- Set aside time to build capacity. Give team members time to develop their knowledge and to create systems that support the team's efforts.
- Use data to tackle a problem people care about.
- Support colleagues in learning how to use data responsibly.
- Appreciate the importance of building trust.
- Recognize that patience can be a virtue.

Create a Data Overview:

- Establish clear norms for data analysis.
- Conduct frequent, focused conversations about student learning.
- Create a data overview that is:
  - a collaborative process.
  - succinct and well organized.
  - aimed at the staff audience.
  - based on several data sources.
  - certain to foster discussion.

Dig into Data:

- Expand the definition of data.
- Make data manageable.
- Learn from the "many" as well as the "one".
- Dig into data with colleagues.

Examine Instruction:

- Frame peer observations as non-threatening.
- Provide a clear structure for the peer-observation process.
- Collaboratively define effective practice.
- Explore various styles of peer observation.
-

Develop an Action Plan:

- Get down to the basics in action planning: If improvement is the goal, focus on priorities.
- Help teachers "keep the faith" when refinements are needed.
- Take heart from evidence of success while continuing to target areas for improvement.
- Action plans should:
  - emerge in response to data about student learning.
  - focus on how to improve instruction.
  - include measurable goals for improved student learning.
  - be collective endeavours.
- Set teaching goals collaboratively.

Plan to Assess Progress:

- Agree on how to assess whether practice has changed.

Act and Assess:

- Set student learning goals collaboratively.
- Use multiple measures to assess whether student achievement is improving.
- Support teachers in leading instructional change.

Adapted from: Boudett, City, and Murnane 2005; Boudett and Steele, 2007; Steele and Boudett 2008

Keep these "dos" and "don'ts" in mind:

1. Don't automatically trust the report or documentation – avoid jumping to conclusions.
2. Do pay attention to validity and reliability – if you want to make valid measures of professional development in terms of student performance, teacher observation data must be included.
3. Don't put too much or too little confidence in data – drawing on your experience and professional judgment is your best ally.
4. Do respect and protect confidentiality – put procedures in place to ensure this.
5. Don't wait for the data to come to you – think of yourself as a "data explorer."
6. Do keep in mind that "buy-in" matters – requiring people to use data won't work.
7. Don't "shoot the messenger" – listen before acting.
8. Do avoid letting your ego become a barrier to using data – there is always room for improvement.
9. Don't be a data ostrich – listen to and use the data.
10. Do make decisions based on as much data as possible – a little bit of data can be dangerous.

– Adapted from Forbes 2010

Avoiding Common Pitfalls: What Data Can and Can't Do

As Albert Einstein famously said, "not everything that can be counted counts and not everything that counts can be counted."

Hess (2008/2009) suggests that dangers lie in wait for those who misunderstand exactly what data can and cannot do. In fact, he has coined the phrase "the new stupid" to characterize the misuse of data. Hess argues that "today's enthusiastic embrace of data has waltzed us directly from a petulant resistance to performance measures to a reflexive and unsophisticated reliance on a few simple metrics – namely, graduation rates, expenditures, and the reading and math test scores of students in grades 3 through 8. The result has been a nifty pirouette from one troubling mind-set to another."

We have, he says, shifted from the "old stupid" to the "new stupid" which he characterizes as:

- using data in half-baked ways
- translating research simplistically
- giving short shrift to management data.

He offers the following advice to avoid this common pitfall:

1. Beware of allowing data or research to substitute for good judgment.
2. Actively seek out the kind of data you need as well as the achievement data external stakeholders need.
3. Understand the limitations of research as well as its uses – especially when crafting policy, help ensure that decisions are informed by the facts and insights that science can provide.
4. Reward education leaders and administrators for pursuing more efficient ways to deliver services.

Meanwhile, Forbes (2010) offers us the following six key things to remember in approaching data:

1. Trust your intuition and experience.
2. Don't be afraid to ask questions.
3. Demand explanations in lay terms.
4. Ask about limitations of the study, measurement instruments, and procedures used in collecting and analyzing the data.
5. Keep asking yourself questions until you understand what is being presented.
6. Finally, ask yourself, "Does this make sense?"

White (2009) reminds us, importantly, that student achievement data alone are not sufficient to guide decision making, a phenomenon he refers to as the "rear-view mirror effect." Student achievement data,

As ever, much remains to be done [to make wise use of data], but we must not underestimate how far we have come in a relatively short time.

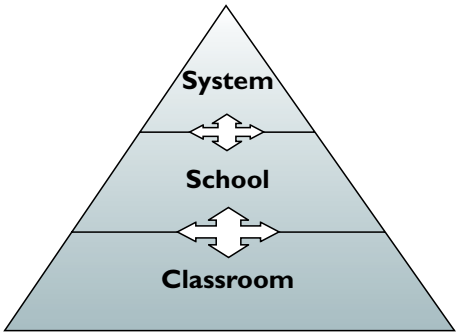
– Hill 2010

…Education as a sector has travelled a long way from 10 to 15 years ago when the systematic use of data, especially data related to student learning, was the exception rather than the rule. This attitude is changing in part because district data systems are more sophisticated now and allow district leaders to examine and analyse a broad range of data more easily than ever before. And it is changing because evidence is mounting that districts that are effective in using data are successful at improving student results.

– Curtis and City 2009

Mutual trust may prove to be the glue needed to hold together the district and school practices that involve using data to improve instruction and achievement.

– Means et al 2009



Source: Hill 2010

he says, describe the results rather than the causes. White advises that we favour "analysis over data" and offers that we should:

- recognize the negative impact of relying on single, annual assessments of learning as the primary source of data
- realize that data opportunities require thoughtful analysis, infusion of our own experience and insights, and decisions that changes how we practice the craft of teaching
- reflect on available data with other professionals, engaging the power of collaboration to examine student work, implement and monitor insightful changes, and improve student achievement
- respond to urgent challenges.

Data and District Leadership: Building Coherence

There is now compelling research evidence of a strong link between how data are viewed – and used – at the district level and how effectively they are used at the school level. Louis et al (2010) reported that "leaders in higher-performing districts communicated explicit expectations for principal leadership and provided learning experiences in line with these expectations; they also monitored principal follow-through and intervened with further support where needed. Districts have many approaches to providing pressure and support for improved leadership at the school level, but one of the most common is by championing data-based decision making."

These researchers point out that the capacity of school leaders is crucial. "A positive link between district data use initiatives and student achievement occurs only when data use is linked with higher collective efficacy – in other words, when principals believe that they have the capacities for meeting district improvement goals." Where data use pressures do not increase capacity, their analysis "implies that data use initiatives can backfire and have a negative effect. This finding supports previous research suggesting that the district's role must be to provide both pressure and support."

Hill (2010) suggests that a tri-level approach is required to explicitly recognize the varied data needs at each level of the system. The approach envisioned by Hill is a pyramid with the school system at the apex and more extensive data collection and use occurring at the school and classroom levels. Information flows between these levels – both vertically and horizontally.

Tips for district level leaders

1. Spend less time ensuring that schools have large amounts of data and more time helping principals and teachers figure out how such data might help them do the job they are trying to do.
2. Collect data about local family educational cultures – norms, beliefs, values, and practices reflecting families' dispositions toward schooling and their role in it. Many elements of such cultures including parental expectations for children's success at school are malleable in response to school intervention and make quite significant contributions to student achievement.
3. Work with school principals to help expand the range of high quality data available to schools in order to more fully encompass the range of variables implicated in schools' problem-solving efforts. Examples include systematically-collected evidence about the school and classroom conditions such as teachers' dispositions toward collaboration, teacher efficacy, trust, academic press, and disciplinary climate that would need to change for their students' achievement to improve.
4. Help all schools increase the sophistication of their data use processes but in particular give priority to helping secondary schools.

Louis, Leithwood, Wahlstrom and Anderson, 2010

Building systemic capacity for using data is ultimately about individual capacity. Organizations that create ways for individuals to improve, and in doing so, embrace the creativity and individuality that is intrinsic to all educators, are organizations that are more nimble in identifying problems and mounting effective responses. Such organizations are true learning organizations that never stop improving.

– Wayman, Jimerson and Cho 2009

School systems do not wake up one day using evidence, even with the arrival of a new system leader. It is a habit that must be cultivated and reinforced over time. Identifying specific problems and opportunities to focus on is part of that habit and helps keep the process of using data from becoming overwhelming, especially for those who are relatively new to it.

– Curtis and City 2009

Hill also notes that, at each level, assessment data need to be used, both summatively for accountability purposes, and formatively for improving teaching and learning.

Wayman, Jimerson and Cho (2009) suggest that districts can improve their data use by addressing the following three critical issues:

1. **Working toward common understanding**
   This entails working collectively so that processes are inclusive across the district, valuing the process as much as the result, and allowing for self-determination.
2. **Recognizing that the work is never done**
   Professional learning for data use focused on building educator capacity should be supported by frequent learning opportunities that allow the building of new skills and knowledge.
3. **Implementing an effective data system**
   This includes three key dimensions: centrally-supported and integrated systems, widespread, easy access to a data system and professional relationships and collegiality.

MAKING CONNECTIONS:

"Using Data" and the Five Core Leadership Capacities

It is important to avoid viewing the five Core Leadership Capacities – setting goals, aligning resources with priorities, promoting collaborative learning cultures, using data, and engaging in courageous conversations – as isolated practices or processes. In fact, all of the CLCs can and do interact with and support each other.

For example, "using data" supports:

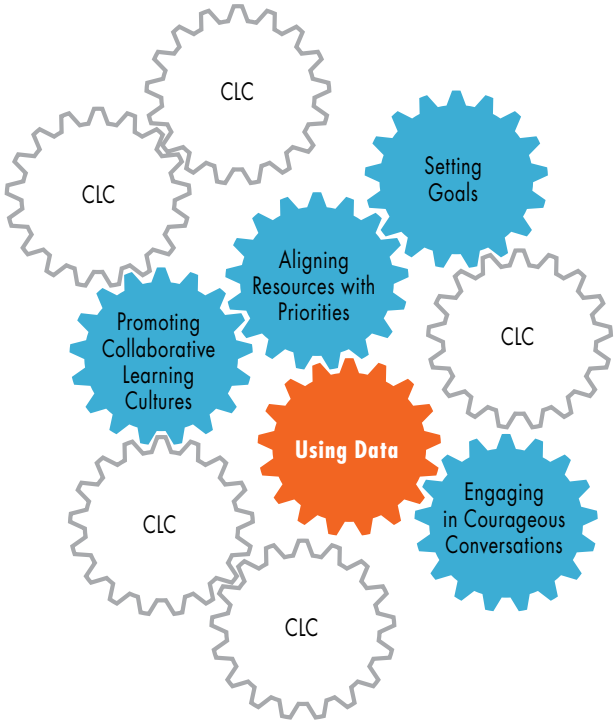
- **setting goals** by providing an evidence-based platform for identifying appropriate goals, and a means to measure progress toward their achievement
- **aligning resources with priorities** by helping to ensure that there is a quantifiable connection between the way human and other resources are used, and the results these resources are producing
- **promoting collaborative learning cultures** both directly, by supporting the development of a collaborative, data culture and indirectly, by helping to ensure that collaborative learning is focused on those key areas of genuine need
- **engaging in courageous conversations** by providing a factual – non-judgmental and non-emotional – foundation for the tough conversations we must engage in if we are to achieve our improvement goals.

Data in the Ontario Context: The Ontario Leadership Framework 2012

How are these research findings reflected in the Ontario Leadership Framework (OLF) 2012? Within the OLF, the core capacity "using data" is recognized as vital to successful leadership and is reflected within – and across – all of the domains of the framework.

The "using data" CLC within the context of the OLF is about working with and developing others to help ensure that all of the relevant information available to schools, districts, and communities is used to inform teaching and learning focused on improved teaching quality and student achievement. Drawing on the leadership practices and personal leadership resources of the OLF, leaders demonstrate their capacity to use data effectively in a variety of ways. For example, they:

- collect, analyze and interpret relevant data in a timely way to inform board and school improvement plans
- move beyond technical aspects of using data to address adaptive challenges such as gaining support for data use, managing emotional issues that may arise, and building staff confidence and efficacy related to all aspects of using data
- use data to promote a collaborative learning culture in which staff:
  - have high expectations for student achievement
  - assess student performance and modify instructional practices based on findings
  - take ownership of the results.



This table illustrates how "using data" is embedded in the *Ontario Leadership Framework 2012*

DOMAINS OF THE ONTARIO LEADERSHIP FRAMEWORK 2012	**SELECTED SCHOOL-LEVEL LEADERSHIP PRACTICES & EXAMPLES OF WHAT THESE PRACTICES LOOK LIKE IN ACTION**	**PERSONAL LEADERSHIP RESOURCES:** Leaders draw upon their personal leadership resources to effectively enact leadership practices
Setting Directions	• **Identifying specific, shared, short-term goals** – Regularly encourage staff to evaluate their progress toward achieving the school's goals – Encourage staff to develop and periodically review individual goals for professional growth, as well as the relationship between their individual goals and the school's goals	**Cognitive Resources:** • Problem-solving expertise • Knowledge of effective school and classroom conditions with direct effects on student learning **Social Resources:** • Perceiving emotions • Managing emotions • Acting in emotionally appropriate ways **Psychological Resources:** • Optimism • Self-efficacy • Resilience
Building Relationships and Developing People	• **Stimulating growth in the professional capacities of staff** – Encourage staff to reflect on what they are trying to achieve with students and how they are doing it – Lead discussions about the relative merits of current and alternative practices – Encourage staff to develop and review their own professional growth goals and their relationship to school goals and priorities	
Developing the Organization to Support Desired Practices	• **Structuring the organization to facilitate collaboration** – Provide regular opportunities and structures that support teachers in working together on instructional improvement, and establish a system for monitoring their collaborative work • **Maintaining a safe and healthy environment** – Implement and monitor the use of appropriate disciplinary practices in classrooms and throughout the school	
Improving the Instructional Program	• **Monitoring progress in student learning and school improvement** – Rcollaborate with staff during the process of data interpretation – Use multiple sources of evidence when analysing student progress – Incorporate the explicit use of data when making decisions that relate to student learning and school improvement – Collect and use data about the status of those classroom and school conditions that are the focus of the school improvement efforts – Provide conditions for teachers to use data effectively (time, support, partnerships with experts, a culture in which the use of data is valued)	
Securing Accountability	• **Building staff members' sense of internal accountability** – Help staff make connections between school goals and ministry goals in order to strengthen commitment to school improvement efforts – Insist on the use of data that is of high quality (reliable, valid, collected using systematic collection processes, available in its original form, and has been subjected to collaborative interpretation) • **Meeting the demands for external accountability** – Measure and monitor teacher and leader effectiveness using data about changes in student achievement	

Using Data in Action:

Board Improvement Planning for Student Achievement (BIPSA)

The effective use of data guides all decisions in the board improvement planning cycle summarized below:

- The process begins with a needs assessment where data is collected, triangulated and then analyzed to identify and document strengths and successes, challenges and trends.
- The analysis of data is the "catalyst for improvement" (White, 2011). Based on the careful and thoughtful analysis of data SMART goals are developed.
- The monitoring phase is highly dependent on data to determine whether goals are being met and if not to make mid-course corrections.
- The final phase of the board improvement planning cycle is the evaluation which again is dependent on and informed by data to determine whether or not student achievement gains have been made.
- The improvement planning cycle begins again following the evaluation as teams reflect on progress to date and take action based on what the data have revealed.

Walking the Talk: Building Our Capacity in the Ontario Context

How can we as leaders further develop our leadership practices and personal leadership resources in this critical area of leadership? The following is a brief sampling of current programs and resources that support the development of our capacity in using data.

Ministry Resources and Supports Available to Ontario Leaders:

- **MISA (Managing Information for Student Achievement)**
  Since 2005, all school districts have been growing the capacity of their system leaders, principals, and teachers to better utilize evidence for improved student outcomes.
  This capacity building has focused on three areas:
  1. Data management to support precise tracking of student progress and planning of effective instructional strategies for improved student outcomes; for example, data accuracy, privacy, timeliness, and relevance.
  2. Technology to support improved student outcomes through implementation of local decision-support tools for the collection and storage of key data necessary to maintain precise tracking of student progress and the planning of effective instructional strategies.
  3. Training in data use to help board staff, including principals and teachers, better understand how to collect, record/store, analyze, and use data appropriately to track student progress and plan effective instructional strategies for improved student outcomes and reduced gaps in achievement.

  In addition, there are seven MISA Professional Network Centres (PNCs) across Ontario; i.e. six regional, English-language centres and one province-wide, French-language centre which function as linked networked learning communities and collaboratively support the efforts of individual boards as they build capacity to work with data and evidence in support of improved student outcomes.

  The MISA PNCs facilitate professional learning related to the use of appropriate evidence at the district, school, and classroom levels especially linked to instructional practice. Through the activities of the MISA PNCs research and evaluation capacity, especially regarding the use of research/evaluation by principals and teachers, is being built across all school districts. The MISA PNCs promote knowledge mobilization of the supports, resources, and tools developed by each MISA PNC available for use by all school districts across the province.

Using Data in Action:

K-12 School Effectiveness Framework (K-12 SEF)

The *K-12 School Effectiveness Framework* is a resource that schools use to assess their effectiveness in literacy and numeracy. Data are an essential part of school self assessments because the ultimate test of effectiveness is improved student achievement. Some ways that using data is essential to the school self-assessment process include the following:

- developing common grade-level assessments, analyzing the resulting data and making decisions regarding next steps for instruction.
- answering the questions: how are we doing and how do we know?
- looking at trends and patterns, identify gaps in achievement and establish targets to address the gaps
- determining the impact of professional learning on instructional capacity and student learning
- problem-solving issues around prevention and interventions
- monitoring student learning on an ongoing basis
- assessing progress toward the SMART goals stated in the School Improvement Plan
- identifying and planning for instruction that continuously moves students forward from current levels of achievement.

Both quantitative and qualitative data and the disaggregating and triangulation of that data provide the evidence of a school's effectiveness.

- **The Student Success Strategy**

Increased use of data for needs assessment and evaluation of improvement has been a precept of the Student Success Strategy. With the introduction of a growing number of programs that suit the diversity of learners in Ontario schools, the use of data to inform and assess the effectiveness of Student Success initiatives has been essential.

Strategic approaches to educational challenges require far more sophisticated ways of analyzing information than have existed in the past. To meet this challenge, the ministry has identified specific assessments that need to be tracked in order to identify program/initiative interventions, enhancements or expansions. To support this tracking, the ministry distributes data packages to boards that provide information at a school, board and provincial level on pass rates, credit accumulation and mark distribution. The data packages afford boards the opportunity to further support data literacy among staff and to identify areas where student achievement is above or below the provincial levels. Moreover, they help boards and schools to target activities in areas of need.

Boards have increasingly used the packages as part of a needs assessment to differentiate resources for schools and to determine the effects of their intervention strategies. The package includes pass rates for English, math and science, credit accumulation rates for grades 9, 10 and 11 and mark distribution for English and mathematics for grades 9, 10, 11 and 12. As well, EQAO data are charted and graphed to help ensure a complete picture of available data. At both the board and school level, staff collaborate to use data to determine areas for intervention. Boards and schools then select the subject, grades and courses where the progress of students does not reflect desired outcomes.

This collaborative inquiry approach is embedded in the Professional Learning Cycle, described in the following, which incorporates four stages – Plan, Act, Observe and Reflect – and allows for the targeting of efforts. Although, at first glance, the planning stage of the cycle identifies data as pivotal to the identification of needed interventions, data and evidence are key to each phase of the cycle.

Using Data in Action:

Predictive Modeling of Student Achievement and Targeted Pedagogical Interventions

An on-going research project involving nine of the province's 12 French-language school boards is demonstrating the applicability of predictive modeling to future student achievement. The approach, along with the *K-12 School Effectiveness Framework* enables each school, and by extension, each district, to identify predictive indicators of future student performance, particularly those elements on report cards that are associated with the results of EQAO tests.

School principals and Student Success Leaders using this approach have been provided with personalized data enabling them to identify student-level interventions based on students' specific needs. While it is not possible to attribute school improvement to a single factor, it has been possible to determine the combination of factors likely to predict student performance as accurately as possible. Results on annual large-scale tests have increased steadily over the last four years.

- **The Professional Learning Cycle – Using Data/Evidence to Drive Professional Learning and Instruction**

The professional learning cycle, a process used by teams of educators for professional learning, has four iterative phases: plan, act, observe, reflect. Learning occurs during and between team meetings when educators share practice, examine student work and access opportunities to build their instructional skills and knowledge. Although originally introduced as part of the Student Success Strategy for Grades 7-12, the professional learning cycle is for use at all levels of the system K-12.

In the Plan phase, educators:

- examine data/evidence to determine a student need related to achievement and/or engagement
- select a learning focus that addresses the student need and "unpack" the curriculum expectations to acquire a common understanding of expected student learning
- determine educator learning required to address the student need
- plan 'with the end in mind', deciding what evidence will indicate that the student need has been met and developing the evaluation task, scoring and tracking tools
- design instruction using research-based instructional strategies and a differentiated approach (DI).

In the Act phase, educators:

- implement instruction while adjusting as needed, based on ongoing assessment and feedback from students
- engage in professional learning to build a collective understanding of the instructional approach
- access professional learning resources.

In the Observe phase, educators:

- monitor student and educator learning
- share and analyse evidence of student learning, including student feedback, and devise next steps
- share instructional practice, address instructional issues and determine next steps for educator learning.

In the Reflect phase, educators:

- examine and analyze results
- co-assess/evaluate student work and share student feedback
- decide, based on evidence, the extent to which the student need has been met
- reflect on educator learning, and decide next steps.

For video footage and resources visit: http://www.edugains.ca/newsite/di2/diprolearningcyclevideo.html

- **The Teaching-Learning Critical Pathway Cycle (T-LCP)**
  Use of Data to Guide Inquiry

  There are many systematic processes used by school teams to construct meaning. The T-LCP is one type of a collaborative inquiry strategy used by Professional Learning Communities (PLCs) to mine data, reflect on teaching and learning strategies, determine actionable steps and reflect on actions.

  Elementary and secondary schools participating in the Leading Student Achievement (LSA) Project use the T-LCP cycle to focus and guide their inquiry process and to build collective efficacy.

  The T-LCP process uses various sources of data and evidence to inform the directions and actions of the PLC. The school team begins its inquiry by determining the strengths and needs of the students and visualizes what quality student work, focused on "thinking skills" might look like by end of the T-LCP cycle. Also included is a focus on the "social actions" that will be considered.

  The school team mines the assessment evidence to determine student strengths and needs. Often the *Reading for Meaning (The Ontario Curriculum, Language Grades 1-8 and English Grades 9 and 10)* curriculum expectations are used as a lens. These include the ability of students to summarize, infer, determine the author's message, state a personal opinion and detect bias. Questions to consider include:
  - Can students support their thinking with appropriate evidence?
  - Can students extend their thinking by making meaningful connections or connecting their thinking to ideas that have social significance?
  - Are students better able to demonstrate their thinking using one text versus another?
  - What role do text features play in demonstrating understanding?

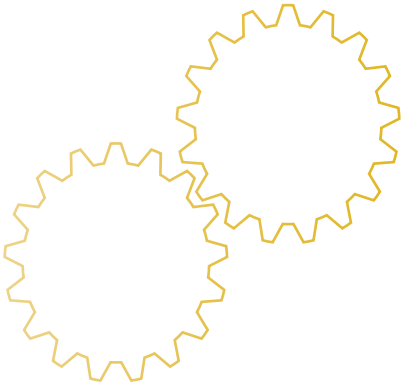
  These questions help to provide the focus that is used to examine the data and to determine the direction of the T-LCP. The school team then clusters the curriculum expectations that will be used in the T-LCP.

  During the T-LCP, the classroom teacher and school team are most interested in:
  - determining the student's entry point by relying on teacher judgment or diagnostic assessment
  - tracking student progress during the T-LCP through use of formative assessments
  - making adjustments to teaching and learning based on student needs
  - acknowledging student competence at the end of the T-LCP by providing a culminating/summative task.

The T-LCP is an inquiry-driven process that uses assessment and teacher judgment to guide and direct the type of instruction and feedback necessary for improved student achievement. This iterative process looks at the effectiveness of the teaching-learning actions. The inquiry process, within the TLCP, determines and drives "next steps" for both the teacher and the learner.

Publications:

- ***In Conversation*** is a series of thought-provoking discussion papers designed to support professional learning and dialogue, available on the ministry's leadership website at www.education-leadership-ontario.ca. Posted most recently are conversations with Dr. Fraser Mustard titled 'Strong Roots, Bright Futures: The Promise of Education and Early Human Development' (Winter 2010/11) and Dr. Douglas Willms titled 'Student Engagement: A Leadership Priority' (Spring 2011).
- ***New Leader*** provides practical strategies for student achievement. See for example, 'Using Data Walls Leads to Improved Teaching, Learning and Achievement' written by Tilia Cruz, principal of Our Lady of Mercy Elementary School. *New Leader* is published by the Student Achievement Division and is available at www.inspirelearning.ca.
- ***Principals Want to Know (PW2K)*** is a series of tip sheets for principals that focuses on practical issues faced in schools. Drawn from existing resources, these tips are designed to support instructional leadership practice. *Principals Want to Know* is sponsored by the Institute for Education Leadership (IEL) and is available at www.education-leadership-ontario.ca.
- ***Collaborative Teacher Inquiry: New Directions in Professional Practice***, a monograph in the *Capacity Building Series* produced by The Literacy and Numeracy Secretariat (2010), identifies and describes seven characteristics of collaborative teacher inquiry through the voices of teachers involved in several ministry supported collaboratives, including the Collaborative Inquiry for Learning – Mathematics (CIL-M). The series is posted at: www.edu.gov.on.ca/eng/literacynumeracy/inspire.
- ***Using Data to Improve Student Achievement*** by Dr. Christina van Barneveld (2008), research monograph #15 in the *WHAT WORKS?* Research into Practice series produced by a partnership between The Literacy and Numeracy Secretariat and the Ontario Association of Deans of Education, has as its primary theme the question "How can teachers use data to improve student achievement at the elementary level?" This monograph is available at www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/whatWorks.



- ***Teaching-Learning Critical Pathways (T-LCP): One Model for Ontario Professional Learning Communities*** is included in *The Capacity Building Series* produced by The Literacy and Numeracy Secretariat to support leadership and instructional effectiveness in Ontario schools. The T-LCP is a model for organizing actions for teaching and learning. Using data effectively is critical to the success of the T-LCP process. The series is posted at: www.edu.gov.on.ca/eng/literacynumeracy/inspire.

Professional Networks, Podcasts and Webcasts:

- **MISA Professional Network Centres**
  The seven MISA Professional Network Centres operating across the province have independent websites where the supports, resources, and tools they have developed are available for use by all school districts. Examples of supports found on these websites include instructional videos, podcasts, presentations, professional development materials, workbooks, and guidelines.
  - Barrie Region MISA PNC www.curriculum.org/MISABARRIE/index.html
  - French-Language MISA PNC www.centregiare.ca
  - London Region MISA PNC www.misalondon.ca
  - Ottawa Region MISA PNC www.misaeast.on.ca
  - Sudbury/North Bay Region MISA PNC www.neoen.ca
  - Thunder Bay Region MISA PNC www.lakeheadschools.ca/misa
  - Toronto Region MISA PNC www.misatoronto.ca.
- **Ontario Education Leaders (OEN)** is a professional network, a ning set up for school and district leaders across Ontario. It provides a forum for the discussion of topics of interest to members about leadership practice. Principal Congress materials are provided on the ning along with the *PW2K* series. Members are encouraged to post items, share ideas, ask questions, and suggest topics for new issues of *PW2K*. Ontario leaders can sign up to join the ning by visiting the Institute for Education Leadership (IEL) website at http://www.education-leadership-ontario.ca/content/home.
- ***Teaching-Learning Critical Pathway: Hubs and Networks*** shows how the T-LCP can provide a model for organizing the work of teacher action teams, often referred to as professional learning communities. Effective implementation of the T-LCP process has shown promising results in improved student learning and the creation of new teacher knowledge. These podcasts which are posted at www.curriculum.org/secretariat/literacy_en.shtml use animation and video clips in their focus on how professional learning communities form hubs and networks.

- ***Leadership Matters: Open-to-Learning Conversations***
  Leadership requires educators to engage in open-to-learning conversations that are reflective, respectful, and at times courageous. Many different terms have been used to describe these types of conversations including learning-focused, courageous, crucial, hard, difficult and fierce. These open-to-learning conversations can arise and be nurtured through various collaborative processes that involve problem solving and decision making. Throughout these processes, leaders demonstrate a commitment to continuous improvement and a collective focus on student learning. This webcast features Jennifer Abrams, Dr. Viviane Robinson, and Dr. Kenneth Leithwood who share current understandings, research, and evidence-based perspectives about open-to-learning conversations.
- ***K-12 School Effectiveness Framework (SEF)*** is a multi-media resource aligned with the SEF document to support professional learning and reflective practice focused on improving learning for all students. The six components outlined in this resource are: Assessment for, as and of learning; School and Classroom Leadership; Student Voice; Curriculum, Teaching and Learning; Programs and Pathways; and Home, School and Community Partnerships. For each component in the SEF there are a number of indicators and sample sources of evidence. In the multi-media resource, several video clips which demonstrate effective, evidence-based practice are highlighted for each indicator.

Professional Learning Opportunities and Resources Offered by Ontario Leadership Associations:

- **Association des directions et directions adjointes des écoles franco-ontariennes (ADFO) and Association des gestionnaires de l'éducation franco-ontarienne (AGÉFO)**
- **Catholic Principals' Council of Ontario (CPCO) and Ontario Catholic Supervisory Officers' Association (OCSOA)**
- **Ontario Principals' Council (OPC) and Ontario Public Supervisory Officials' Association (OPSOA)**

The six Ontario professional leadership associations listed above represent vice-principals, principals and supervisory officers and share in common their commitment to promoting a collaborative culture of professional learners. Professional learning opportunities and resources offered by the associations – individually and/or in partnership – build and strengthen leadership practice related to all five Core Leadership Capacities.

To learn about these associations, visit ADFO at www.adfo.org, AGÉFO at www.agefo.ca, CPCO at www.cpco.on.ca, OCSOA at www.ocsoa.ca, OPC at www.principals.on.ca, and OPSOA at www.opsoa.org.

WRITE TO US ABOUT THE CORE LEADERSHIP CAPACITIES

We invite you to share your insights with us about *Ideas Into Action*.

- Tell us about your own experiences with any or all of the five CLCs?
- What has worked for you?
- What professional learning supports have you found to be effective in strengthening these capacities?

We look forward to your responses and to sharing excerpts in the next issue of *Ideas Into Action* which will focus on "aligning resources with capacities."

Write to us at ldb-ddl@ontario.ca

Dialogue: What You Told Us

Ideas Into Action is designed to support the capacity building being undertaken by the ministry, Ontario's provincial leadership associations, the Institute for Educational Leadership (IEL) and districts. It is intended to contribute to your ongoing professional learning and provide you and your colleagues with a meaningful springboard for reflection and professional dialogue and for putting these ideas into action.

Reader Insights and Perspectives

In the last issue of *Ideas Into Action* which focused on the CLC "setting goals" we asked you to share your thoughts and insights. Readers wrote to us not only about "setting goals" but also about "using data."

Reflections on "Using Data"

From a MISA Lead

- "In our district, a key to effective use of data is to make data available and relevant to teachers on an ongoing basis. Leadership from teacher and school leaders, in establishing the conditions for effective data use is the best next step to improve student achievement. The development of a positive data culture in schools that makes data use a central element of district, school, and student achievement is a process that involves intentional commitments to time and focus.

  The term 'a snapshot in time' has been valued in education as an opening statement initiating the dialogue with teachers about data. To effect changes in practice that benefit our system at all levels, however, it is essential that data sources are always current, available and accurate. It is critical that data become part of practice through consistently applied activities that are shared across schools, families of schools, and districts.

  District-level practices that have proven effective to develop this culture include:
  - giving teachers, teacher leaders and principals timely access to their own school and classroom data
  - determining the data to be the focus
  - providing data resources that are accurate and current
  - collecting data and posting immediately
  - creating a 'dashboard' of data reports to ease access and as an entry point for the input and review of data elements
  - involving teachers in how they access and analyze data
  - making data and data use an integral part of professional learning."

***Ideas Into Action #4 – Setting Goals: The Power of Purpose –* Some Reader Comments:**

- These bulletins are an invaluable resource to our mentors/coaches. For example, we used the setting goals issue as the focus of one-on-one conversations between mentees and mentors/coaches in their dialogue about progress towards achieving the goals in their Learning Plans.
- The 'Making Connections: How Goal Setting Interacts with Other CLCs' section and the chart which shows how the "setting goals" CLC is embedded in the Ontario Leadership Framework (OLF) is very useful in showing how the leadership practices and personal leadership resources of the OLF are enacted in real-life.
- *Leading through Quality Questioning: Creating Capacity, Commitment, and Community* (Walsh and Dankert Sattes, 2010) is another excellent resource to support mobilizing individual and collective energy around a goal and facilitating reflection on progress toward the identified goal.

From Student Success Leaders

- "The notion of a 'data culture' is an interesting concept. The context in which the data are collected and applied as well as how unique characteristics of that context inform the use of the data is an important component of this. The data focus can be on change in data or the simple situating of the data vis-à-vis other comparative data; for example an EQAO grade 6 reading score of 62 may be viewed as a disappointment as it stands 13 points below the expected standard. However if the school had never attained a result above 55 before and the result occurred with a group that scored 23 on the grade 3 assessment, the result takes on a whole new interpretation and significance."
- "Setting aside time for using data may not be seen as a viable option for many principals and supervisory officers. Perhaps the strategy of embedding data use and analysis into expectations for department heads and teams, divisional teams, principals with the school superintendent, supervisory officers together and with directors of education and trustees – may lead to data use becoming a condition in a data culture."
- "Data only opens the door to a more meaningful conversation. Once you know *what* the issue is, the real work begins to determine *why* the issue exists and how you will respond to alter that condition."

Reflections on "Setting Goals"

From Principal Congress 2011 Participants

- A secondary principal describes an approach that not only engages students in setting goals related to their own performance but also is an essential dimension of school improvement work: "One of the activities our PLC community has implemented is working with students to clearly chart their progress and more importantly to dialogue to determine strategies that will meet their goals in moving up a predetermined level in one area of the assessment chart. Students are able to visually see where they are and determine where they want to be. They can see the outcomes after following strategies they individually identified in collaboration with their teachers.

  Students are not identified by name but rather by a random selection that only the teacher and the student know. That way they are able to see where they are, where they want to be in relation to other students in their class. As they see improvement in other students (who are not identified) they can conference with teachers and other students to share strategies that are working to move students from level 2 to level 3 in the particular category and follow the same process."

- An elementary principal reflects on what took place when the school's newly formed *SEF* lead team decided to take a comprehensive "look in the mirror": "With the support of our board's leadership development team, we crafted questions and activities intended to give all of us a clear picture of what we were doing and how what we were doing is aligned with what we wanted the students to do. What we didn't know at the time that we know now was that we were touching on the work of Richard Elmore and his thoughts about the 'instructional core'.

  This examination helped us develop a set of core priorities which we felt would propel us and our students to be the 21st century learners we wanted them to be. The critical notion or the 'aha' moment for the school staff, myself included, was that we are ALL learners related to these initiatives and that although each of has something to contribute we all have much to learn as well. Talk about a shared purpose!"

Selected Resources and Publications: Recommended by Ontario Leaders

Ahead of the Curve: The Power of Assessment to Transform Teaching and Learning edited by Reeves (2007) provides a comprehensive view of the challenges of assessment from classroom, system and leadership perspectives. The contributors who are all internationally renowned education leaders support the premise that the fundamental purpose of assessment is not to rate, rank, and sort students, but rather to provide meaningful feedback that leads to improved performance.

Beyond the Numbers: Making Data Work for Teachers and School Leaders, 2nd edition, by White (2011), has been updated to include lessons learned from school systems that, according to White, "routinely break the mold, closing achievement gaps for second-language learners in Ontario, Canada, and California." White's messages can be summed up in what White refers to as the "five Rs of data analysis":

- RECOGNIZE the influence of the rearview-mirror effect on current practices, policies, and values about teaching and learning.
- REALIZE that data provide opportunities for thoughtful analysis, infusion of our own experience and insights, and decisions that change how we practice the craft of teaching.
- REFLECT on available data with other professionals, engaging the power of collaboration to examine student work, implement and monitor insightful changes and improve student achievement.
- RESPOND to urgent challenges.
- REPLICATE practices that work to share the wealth of knowledge and expertise in schools.

School Me the Proof! Tools and Strategies to Make Data Work for You, also by White (2005), is the companion to *Beyond the Numbers.*

Breakthrough by Fullan, Hill and Crévola (2006) defines a new framework for instructional reform using three core components – personalization, precision, and professional learning – to develop precise, data-driven classroom instruction personalized to every student.

Building and Connecting Learning Communities: The Power of Networks for School Improvement by Katz, Earl, and Ben Jaafar (2009) draws on the authors' professional development and research experience to show how networked learning communities (NLCs) can impact school improvement. The authors examine formal/informal leadership roles, collaborative inquiry as an essential tool, and how NLCs support school-wide accountability including effective use of data.

Data Enhanced Leadership edited by Blankstein, Houston, and Cole (2010) offers key concepts about how the informed use of data can translate into highly effective school leadership, this seventh volume in *The Soul of Educational Leadership* series demonstrates how educational leaders can apply data strategically to strengthen school leadership and significantly improve professional learning, students' learning experiences, and school-wide performance.

Data, Data Everywhere: Bringing All the Data Together for Continuous School Improvement (2009) by Bernhardt describes what it takes to increase student achievement at every grade level in every subject area and with every student group. Bernhardt who is a leading expert on using data has written this short book not to suggest that "data analysis has gotten easier or that the work is less" but to provide school staff with an accessible resource.

'Data: Now What?' is a themed issue of *Educational Leadership* (December 2008/2009) that aims to provide guidance about how schools can use data to inform decision making. Advice that emerges from contributors' writings includes: focus on questions, not data; be sceptical of easy answers; become assessment literate; think beyond test scores; and use informed judgment.

Data-Driven Dialogue: A Facilitator's Guide to Collaborative Inquiry by Wellman and Lipton 2004) offers guiding principles, practical tools, field-tested tips and a three-phase model for structuring and facilitating data-focused conversations.

Data Teams: The Big Picture – Looking at Data Teams through a Collaborative Lens by Allison, Besser, Campsen, Cordova, Doubek, Gregg, Kamm, Nielsen, Peery, Pitchford, Rose, Ventura, and White (2010) is an anthology of writings about the key components of data teams that shows how implementation of the Data Team Process can positively impact initiatives in schools and districts.

Data Wise: A Step-by-step Guide to Using Assessment Results to Improve Teaching and Learning edited by Boudett, City, and Murnane (2005) presents a clear and carefully tested blueprint for school leaders on how to use assessment data to support student achievement.

Data Wise in Action: Stories of Schools Using Data to Improve Teaching and Learning, edited by Boudett and Steele (2007) is a companion to *Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve Teaching and Learning* and highlights the leadership challenges schools face in each phase of the eight-step Data Wise process and illustrates how staff members use creativity and collaboration to overcome these challenges.

Deliverology: A Field Guide for Educational Leaders by Barber, 2010 draws on the author's pioneering work as head of a Delivery Unit in the UK to show readers how to engage in a concerted and purposeful application of what he terms "deliverology" – an approach designed to help systems set and achieve ambitious goals using data to set targets for next steps in improvement.

'Examining Evidence' is a themed issue of *JSD* (Fall 2008) that explores what kinds of evidence are useful in particular context. The authors describe the support that teachers and school leaders need to best use available evidence.

Failure Is NOT an Option: Six Principles that Guide Student Achievement in High-performing Schools by Blankstein (2004) offers six guiding principles for creating and sustaining high-performing schools one of which is data driven decision making and continuous improvement.

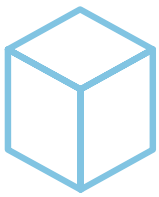
Leading with Inquiry and Action: How Principals Improve Teaching and Learning by Militello, Rallis, and Goldring (2009) presents an evidence-based, systematic, ongoing process for collecting information, making decisions, and taking action to improve instruction and raise student achievement.

Leaders Make It Happen: An Administrator's Guide to Data Teams by McNulty and Besser (2010) provides practical and clearly defined protocols for establishing "data teams" and shows how to avoid pitfalls and build capacity through the data team process.

Leadership Maps by White (2009) offers specific leadership strategies across eight key domains including data analysis and accountability in action to empower leaders to analyze their own performance as well as that of other school leaders.

Leading Schools in a Data-Rich World: Harnessing Data for School Improvement by Earl and Katz (2006) shows educators how to become comfortable with data and provides valuable tools for school improvement teams to use in their work.

'Let Data Do the Talking: Clarify Goals and Roles by Examining Data' by Von Frank (2009) is a themed issue of Learning Forward's *Tools for Schools* that focuses on dimensions of effective data use including types of data conversations.



Professional Learning Conversations: Challenges in Using Evidence for Improvement edited by Earl and Timperley (2008) provides informed arguments, theory and practical examples based on research about

what it looks like when educators, policy makers, and even students try to rethink and change their practices by engaging in evidence-based conversations to challenge and inform their work.

The Principal as Data-Driven Leader by Clark (2009) is a joint publication of the Ontario Principals' Council and Corwin Press *Leading Student Achievement* series designed to help school leaders use data to shape, revise, and assess their school improvement plans.

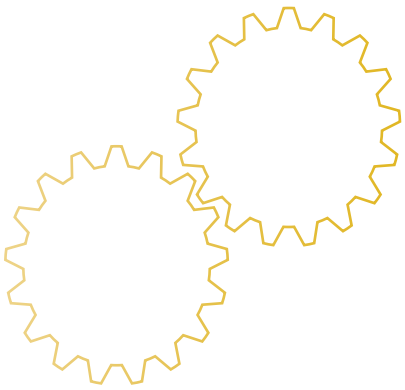
School Self-Assessment: The Road to School Effectiveness is the product of a partnership between the Ontario Principals' Council (OPC) and the National Association of Head Teachers (NAHT) in the United Kingdom. This guide outlines the process of school self-assessment as a powerful tool that leaders can use for school improvement.

Tools and Talk: Data, Conversation, and Action for Classroom and School Improvement by Murphy (2009) presents a practical and resourceful guide to data use focused on teaching and student learning.

'Using Data to Improve Student Achievement' is a themed issue of *Educational Leadership* (February, 2003) that focuses on answers to questions that continue to be relevant in 2011; i.e., How will we use the data?; Where did the data come from?; Where do we start?; and What do the data really say?

Using Data to Improve Learning for All: A Collaborative Approach edited by Love (2010) shows school and district leaders how to implement collaborative inquiry to improve teaching and learning, build and support a high-performing data culture, and establish a school climate characterized by collective responsibility for student learning and a respect for students' culture.

Using Data to Improve Student Learning Series by Bernhardt (2003–2005) is a four-book collection that shows analysis of data from real schools that can help to inform school improvement plans and provides templates and examples for leaders to use in elementary, middle, and high schools and in school districts.



Using Student Achievement Data to Support Instructional Decision Making by Hamilton, Halverson, Jackson, Mandinach, Supovitz, and Wayman (2009) is a practice guide in education published by the Institute of Education Sciences (IES) of the US Department of Education. This practice guide brings the best available evidence and expertise to bear on the challenges of using student achievement data.

What Works? Research into Practice: Using Data to Improve Student Achievement by Christina Von Barneveld (2008) is one of a research-into-practice series produced by The Literacy and Numeracy Secretariat and the Ontario Association of Deans of Education. This monograph draws on the research to answer the question: "How can teachers use data to improve student achievement at the elementary level?" and suggests implications for educational practice.

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