



MODULE 0: INTRODUCTION TO THE TOOLKIT

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Tools and Resources for the Introduction



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INTRODUCTION

Welcome to the District Data Team Toolkit. This Toolkit is designed to help a district establish, grow, and maintain a culture of inquiry and data use that can inform decisions that impact teaching and learning, and ultimately improve the achievement of all students. This short introduction will help you understand and navigate the tools and resources available to support this work.

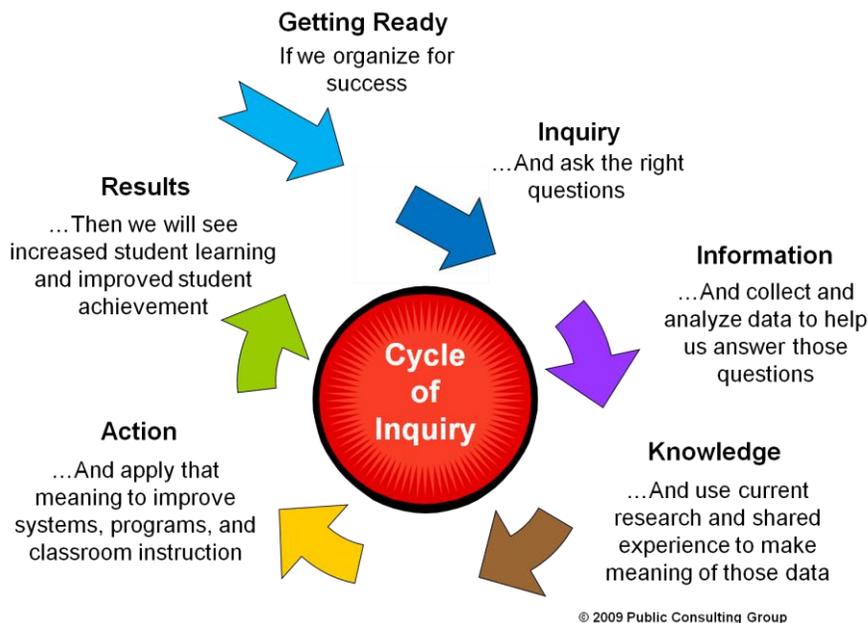
WHAT IS THE TOOLKIT?

Ensuring the effective use of inquiry and data district-wide involves many tasks and types of expertise. For that reason, this Toolkit is designed to assist in the establishment of a District Data Team—a cadre of staff who is collectively responsible for the technical, organizational, and substantive aspects of data use. These Team members must be data literate and able to lead the collaborative inquiry process with both district and school staff. Members of the District Data Team work with district staff and school-level data teams to:

- Craft questions about accountability, equity, and continuous improvement
- Coordinate the collection, analysis, and dissemination of data displays that are necessary to address these essential questions
- Build action plans
- Monitor progress of improvement initiatives

These activities can help build the capacity of a District Data Team to engage in inquiry and use data to inform district-level decisions. Over time, the Team can engage the entire staff in using multiple data sources to continuously improve teaching and learning throughout the district. Districts that engage with the Toolkit should plan for a multi-year commitment to increase and embed a capacity for effective data use.

The Toolkit is designed around a theory of action, the Data-Driven Inquiry and Action Cycle (see diagram) on the next page, which provides a foundation for effective data use. The Cycle provides a structure that takes data use from asking the right questions to getting results. It is an iterative process in which the district uses data to target and support continuous improvement. A disciplined application of this kind of data-driven approach can build a district and school environment that is focused on continuous improvement grounded in evidence. This Cycle is also the basis for the ESE Education Data Warehouse trainings, which further provide excellent tools to access and analyze data. But analyzing data alone will not result in continuous improvement. Concrete actions that are grounded in evidence and continually monitored through the collection and analysis of multiple forms of data are critical to achieve improved results.



HOW CAN THE TOOLKIT HELP OUR DISTRICT?

Districts and schools gather enormous amounts of data throughout the school year. These data have historically been collected merely to comply with external requirements. Increasingly, educators are seeking ways to use data systemically for their own learning and to inform decisions about curriculum, instruction, resource allocation, and other vital functions at district and school levels.

The ESE District Data Team Toolkit can help district staff:

- Organize a District Data Team to facilitate productive use of data throughout the district
- Learn and practice the steps of an effective data use model
- Access and apply tools and resources to support a process of inquiry

Engaging with this Toolkit can help a district identify and/or refine a focus for improvement, including determining if current improvement efforts are having the desired effect on student learning outcomes. For example, a district may frame an inquiry process around one aspect of an existing District Improvement Plan as a means to delve deeply into questions about the impact of the related initiatives. Once a District Data Team has built its own capacity for data use and a culture of inquiry, it will be better poised to support such efforts with principals, teachers, and other stakeholders in the district.

WHAT'S IN THE TOOLKIT?

The Toolkit has seven modules – this Introduction, and six modules aligned to the Data-Driven Inquiry and Action Cycle. Each module contains objectives, detailed information, tools, and resources to help implement the work.

1. Getting Ready module provides guidance on forming a District Data Team and taking steps to build a solid foundation for building a culture of inquiry and systemic data use. The module addresses the need for systems to inventory, collect, and disseminate the data. It also has information to promote assessment literacy and help manage change.
2. Inquiry module launches a process of inquiry by identifying high-level questions of importance to the district, generating clarifying questions to focus the inquiry, and identifying data needed to answer them. The module includes guidance for effective data displays and data overviews.
3. Information module guides the process of analyzing the data identified in Inquiry, first making factual observations about the data and then generating inferences about what the data mean.
4. Knowledge module helps place information (analyzed quality data) into the context of research and practice to accurately define the problem and identify possible solutions.
5. Action module provides frameworks for putting new knowledge to work by developing a logic model and articulating clear measures that will guide and focus the work, and then by creating an action plan (if necessary). If the information and knowledge gained from quality data analysis are not acted on, data collection efforts are wasted and improvement won't occur!
6. Results module shares methods for monitoring the work, evaluating the impact, making mid-course corrections if necessary, and communicating the outcomes with stakeholders.

HOW SHOULD THE TOOLKIT BE USED?

The Toolkit is designed for district-level staff, to promote the skills and knowledge necessary to build their capacity to effectively use inquiry and data to inform district-level decisions. As a District Data Team gains comfort with the tools, resources, and processes in the Toolkit, it can plan ways to share them with school-and teacher-level data teams.

Each of the modules provides specific tools and activities to implement the steps of the inquiry process. Some tools are best used electronically. It is important to understand, however, that superimposing a process does not necessarily yield a positive result. A district must be mindful of doing what it can to embed a culture of inquiry and data use that goes beyond technical compliance with processes.



Many thanks to all the individuals who contributed to the creation of this Toolkit, including a number of personnel from:

Public Consulting Group (PCG);

MA ESE Offices of Urban District Assistance, School Improvement Grants Management, Information Technology, Data Collection, and the Center for Curriculum and Instruction; and

Brockton, Chelsea, Fitchburg, Holyoke, and Lynn Public School Districts.

For more information on this and other district support resources, or to share feedback on this tool, visit <http://www.doe.mass.edu/sda/ucd/> or email districtassist@doe.mass.edu.



OBJECTIVES FOR ALL MODULES

0.1.1R

Purpose	To provide an overview of the objectives for all modules in the District Data Team Toolkit.	Related Documents 0–Introduction 0.1.2R: Tools and Resources for All Modules
Description	In conjunction with the <i>Introduction</i> and <i>Self-Assessment</i> , this summary can help a District Data Team identify the parts of the Toolkit that might be most useful to its work.	
Time	N/A	

Module 1 (Getting Ready) will help a district:

- ▶ Set the vision for data use across the district
- ▶ Build a culture of inquiry to promote systemic data use
- ▶ Establish a District Data Team to drive this work
- ▶ Build data literacy
- ▶ Understand types of data that inform inquiry
- ▶ Establish systems and policies to inventory, collect, and disseminate data
- ▶ Manage the change process

Module 2 (Inquiry) will help a District Data Team use the above roles and vision to:

- ▶ Formulate questions to drive an inquiry process
- ▶ Create and present effective data displays and data overviews
- ▶ Identify the data needed to answer the questions

Module 3 (Information) will help a District Data Team use the above questions and data to:

- ▶ Collect and organize data relevant to the inquiry process
- ▶ Distinguish between observations and inferences
- ▶ Make inferences from multiple sources of data

Module 4 (Knowledge) will help a District Data Team use the inferences generated above to:

- ▶ Clearly articulate a problem statement
- ▶ Identify and explore root causes of the problem
- ▶ Cross-reference solutions with research and local knowledge
- ▶ Begin to capture information on the district's improvement efforts

Module 5 (Action) will help a District Data Team use the knowledge generated above to:

- ▶ Craft a logic model or theory of action to guide subsequent action and evaluation
- ▶ Articulate meaningful measures of implementation and change
- ▶ Develop action plans, if necessary, to implement new strategies or to implement existing strategies more effectively

Module 6 (Results) will help a District Data Team use the action plan generated above to:

- ▶ Decide what to evaluate
- ▶ Develop an evaluation plan
- ▶ Analyze evaluation data
- ▶ Identify and develop a communication strategy
- ▶ Continue the process of inquiry



TOOLS AND RESOURCES FOR ALL MODULES 0.1.2R

Purpose	To provide an overview of the tools and resources available in all modules of the District Data Team Toolkit.	Related Documents 0–Introduction 0.1.1R: Objectives for All Modules
Description	In conjunction with the <i>Introduction</i> and <i>Self-Assessment</i> , this list of tools and resources can help a District Data Team identify the parts of the Toolkit that might be most useful to its work.	
Time	N/A	

Module 0: Introduction

- 0.1.1R: Objectives for All Modules
- 0.1.2R: Tools and Resources for All Modules
- 0.2.1T: District Data Team Self-Assessment

Module 1: Getting Ready (Organize for Success)

- | | |
|--|---|
| 1.1.1T: Functions of a District Data Team | 1.5.3R: ESE Data Resources |
| 1.2.1T: Barriers to Effective Data Use | 1.6.1T: Data Collection Self-Assessment |
| 1.3.1T: Vision for Data Use | 1.7.1T: Data Dissemination Schedule Template |
| 1.4.1T: Norm Setting Protocol | 1.7.2R: Data Dissemination Schedule Example |
| 1.4.2T: Data Team Meeting Agenda | 1.7.3R: ESE Policies for Data Access |
| 1.4.3T: Data Team Meeting Minutes | 1.8.1T: Data Literacy Training Catalog |
| 1.5.1T: Data Inventory Template | 1.8.2R: Assessment Glossary |
| 1.5.2T: Data Inventory Template: SIMS and EPIMS Data | 1.9.1T: Managing Change and Understanding Concerns Protocol |

Module 2: Inquiry (Ask the Right Questions)

- | | |
|--|--|
| 2.1.1T: Question Formulation Protocol | 2.4.2R: Data Display Rubric |
| 2.2.1T: Inventory of District and School Initiatives | 2.4.3R: Types of Data Displays |
| 2.3.1T: Data Overview Checklist | 2.4.4R: More Data Display Resources |
| 2.3.2R: Data Overview Example | 2.5.1T: Data Overview Brainstorming Protocol |
| 2.4.1T: Building Data Displays Protocol | 2.5.2T: Focusing Question Investigation Template |

Module 3: Information (Collect and Analyze Data)

- | | |
|--|---|
| 3.1.1T: Data Collection Planning Tool | <i>Also revisit</i> |
| 3.2.1T: Practice Making Valid Inferences | 2.4.1T: Building Data Displays Protocol |
| 3.3.1T: Data Analysis Protocol | 2.4.2R: Data Display Rubric |
| | 2.4.3R: Types of Data Displays |
| | 2.4.4R: More Data Display Resources |

Module 4: Knowledge (Make Meaning of Data)

4.1.1T: Writing a Problem Statement	4.2.5T: Dimensions Bulls-Eye
4.2.1T: Why, Why, Why?	4.3.1T: Problem Investigation Plan
4.2.2T: 20 Reasons	4.3.2R: Educational Research Websites
4.2.3T: Fishbone Analysis	4.4.1T: Problem Catalogue Template
4.2.4T: Graphic Representation	

Module 5: Action (Apply Meaning)

5.1.1T: Logic Model Template	5.2.2R: Elements of a Well-Written Measure
5.1.2T: Logic Model Checklist	5.3.1T: Action Plan Template
5.2.1T: Crafting Meaningful Measures Checklist	5.3.2T: Action Plan Checklist

Module 6: Results (Look for Improvement)

6.1.1T: Evaluation Plan Template	6.2.2T: Building Data Walls
6.2.1T: Communication Organizer	6.2.3T: Evaluation Report Template

For more information on this and other district support resources, or to share feedback on these tools, visit <http://www.doe.mass.edu/sda/ucd/> or email districtassist@doe.mass.edu.



Massachusetts Department of
ELEMENTARY & SECONDARY
EDUCATION

District Data Team Self-Assessment

0.2.1T

MA ESE District Data Team Toolkit

District Data Team Self-Assessment

Background: This tool is designed to give a District Data Team an indication of its strengths and challenges in a variety of areas related to promoting a district-wide culture of inquiry and data use. The self-assessment is comprised of six short surveys which are aligned to each of the six modules in the Toolkit and to the six steps in the Data-Driven Inquiry and Action Cycle. Each survey has a number of selected-response questions grouped by Data Team practice. The possible responses are described in the rubric below.

1. Print each page of this self-assessment (including this page so that the rubric is readily available to anyone taking the survey) and provide a full copy to each member of the group.
2. Individually complete the survey, assigning a rating from the rubric below to each indicator.
3. As a group, discuss each page of the survey and agree on a rating for each indicator. It is not necessarily best to average the individual scores to get this final rating. If responses among individuals vary widely, engaging in a discussion about which rating best represents the level of practice can help the Team begin the hard work of developing a common understanding of the work.
4. Enter the final rating for each indicator into the spreadsheet version of this survey.
5. Print out the Graphs page (or use a projector to display it on the wall), and as a group talk through the discussion questions for each graphical display.

Rubric for Assessing Each Practice:

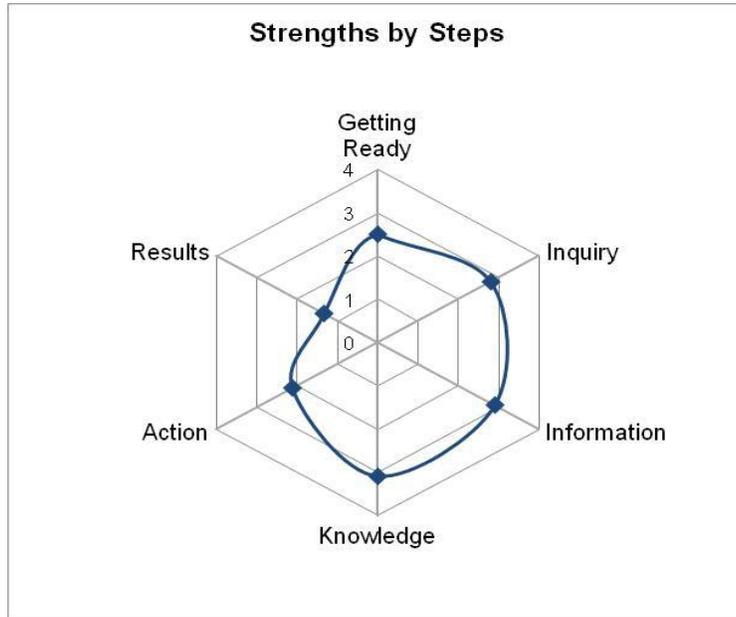
0	No Knowledge	Respondent/Team has no knowledge about this indicator and cannot provide a judgment about its existence in the district.
1	No Evidence	There is no evidence that this indicator is in place within the district.
2	Emerging Evidence	There is some evidence of this indicator in the district, but the evidence indicates that the practice is far from standard procedure and has clear room for improvement in both quality and frequency.
3	Adequate Evidence	This indicator has clear evidence of existence in the district and is consistently practiced in many places. There is room for improvement in either quality or frequency.
4	Exemplary Evidence	This indicator is evident in a variety of ways throughout the district. The practice described is clearly a part of the district culture and the way people operate within the district.

Interpreting the Data: When the Team completes the six surveys, the data will be displayed in a series of charts with questions to guide your review. There are two types of displays.

- * A **radar chart** showing your Team's perceptions of strengths across each of the six modules.
- * A **horizontal bar chart** for each step displaying the strengths within the step by practice.

A radar chart, also known as a spider chart or a star chart because of its appearance, plots the values of each category along a separate axis that starts in the center of the chart and ends on the outer ring. In the example below, each step of the Data-Driven Inquiry and Action Cycle is plotted on an axis. This makes it possible to compare your survey results across the steps. When your surveys are complete, your results will be displayed in a ring plotted on the chart. A district performing consistently across all of the steps will be displayed in a near circle. A district performing higher in some steps than others will be displayed in a more free form shape.

In the example below, this district is doing comparatively better in Inquiry, Information, and Knowledge than it is in the other three steps. In this case, the district might find value in starting with the Results module to get an idea of what processes are involved with monitoring action plans, and then shifting back to the Getting Ready module to strengthen its processes across the whole cycle.



The horizontal bar charts will display your Team's perceptions of strength within each step. The questions in each step are grouped by practice. The chart displays the averages of the responses within each step, allowing you to view a disaggregated depiction of performance. When viewing these charts, you may find it valuable to go to the modules themselves to find the tools, resources, and activities that contribute to the effective implementation of that practice. Each of the practices surveyed in this instrument are supported in the modules.



Getting Ready

Incomplete

Rating Scale: 0 = No Knowledge; 1 = No Evidence; 2 = Emerging Evidence; 3 = Adequate Evidence; 4 = Exemplary Evidence

Vision for Data Use

Rating:

The district has a vision for data use that aligns with and furthers the wider district mission and vision.	
The district's vision for data use is widely understood and accepted by all stakeholders.	
The vision is supported by district policies and published expectations that support the use of inquiry and data for instructional, school, and district improvement.	
Practice Average:	

District Data Team

Rating:

The district has an established District Data Team or has designated another team to fulfill those functions.	
The District Data Team has a data champion, a data manager, and additional members with the range of skills and perspectives needed to address the functions of the Team.	
The District Data Team has a clear sense of its purpose and role in furthering the district's vision for data use.	
The District Data Team has a written plan that outlines the membership, roles, and responsibilities of the Team, and this is publically communicated.	
The District Data Team uses effective team practices (starting and ending on time, appointing a moderator, following an agenda, appointing a note-taker, and clearly communicating regular meeting times).	
The District Data Team accomplishes its tasks effectively (action items are clearly noted with the people responsible and timelines for completion; Team communicates with all stakeholders).	
Practice Average:	

Assessment Literacy

Rating:

District Data Team members are fully fluent in and have a shared understanding of contemporary, standards-based assessment terms and concepts, e.g., summative assessments, formative assessments, performance levels.	
District Data Team members know what assessments are in use in the district and understand each assessment's purpose.	
Members of the District Data Team actively support the development of assessment literacy in district colleagues, school data teams, and others through professional development offerings, coaching, and modeling.	
Practice Average:	

Data Technology(ies)

Rating:

Resources, e.g., user manuals, job aids, IT support, for data technology(ies) exist and are easily accessible to district and school users.	
The district has technology(ies) for collecting and combining data from multiple sources, e.g., demographics, grades, assessment data, attendance.	
Practice Average:	

Data Inventory

Rating:

The district has a comprehensive inventory of demographic, assessment, and other data available to inform improvement plans and instructional practices.	
The data inventory is published and available to all, along with a regularly updated schedule to communicate how and when each type of data becomes available.	
Practice Average:	

Data Collection

Rating:

The District Data Team solicits feedback from stakeholders to identify opportunities for improvement in methods of data collection, management, and reporting.	
The District Data Team regularly uses established methods of communicating and coordinating with stakeholders at all levels regarding data work.	
Protocols or procedures are regularly used to ensure accuracy of data.	
The District Data Team collects and reviews data from non-electronic sources, such as <i>Learning Walkthroughs</i> , Common Planning Time (CPT) Self-Assessment, and interviews with principals and other staff.	
Practice Average:	

Data Access

Rating:

The district has clear policies for data access that conform to state and federal requirements.	
The District Data Team has knowledge of what data reports are disseminated to which stakeholders, when, why, and what actions are taken as a result.	
Practice Average:	

Change Management

Rating:

District Data Team members are able to identify and address potential resistance to change before problems occur.	
Practice Average:	

Getting Ready Composite Average:

Inquiry

Incomplete

Rating Scale: 0 = No Knowledge; 1 = No Evidence; 2 = Emerging Evidence; 3 = Adequate Evidence; 4 = Exemplary Evidence

Question Formulation

Rating:

The District Data Team clearly articulates a focusing question to guide the inquiry process.	
When determining a focus for the inquiry process, the District Data Team considers high-level data and also solicits input from school and district leaders and other stakeholders regarding areas of priority concern, e.g., dropout rates, programs to evaluate.	
Practice Average:	

Data Displays

The IT staff and District Data Team create user-friendly data displays (charts, tables, and reports) that facilitate meaningful conversations and promote new insights on the work of the district in service of teaching and learning.	
Practice Average:	

Data Overviews

Rating:

The District Data Team creates effective data overviews (presentations to an audience) that are tied to identified questions.	
The District Data Team presents data overviews to appropriate audiences to introduce stakeholders to the inquiry process.	
Data overviews engage stakeholders in discussions of high-level data and solicit their input on the formation of the questions that will guide the inquiry process.	
Data overviews result in collaborative discussions about the meaning of the data, clarifying questions to focus the inquiry, and a list of data potentially needed to address the questions.	
Practice Average:	

Priority Identification

Rating:

The District Data Team prioritizes among identified areas of need arising from the inquiry process.	
The District Data Team examines new initiatives and priorities in the context of available resources and ongoing initiatives to ensure alignment.	
Practice Average:	

Inquiry Composite Average:

Information

Incomplete

Rating Scale: 0 = No Knowledge; 1 = No Evidence; 2 = Emerging Evidence; 3 = Adequate Evidence; 4 = Exemplary Evidence

Data Collection Planning

Rating:

The District Data Team has a system to identify who will gather and organize data needed for analysis (related to the specific focusing and clarifying questions), by when, and from where.	
Practice Average:	

Data Analysis

Rating:

The District Data Team understands the differences between factual observations and inferences generated from analyzing data and is rigorous about distinguishing between the two when discussing evidence.	
Assessment data are analyzed in aggregate and disaggregate formats.	
Assessment data is triangulated with other data, e.g., attendance, benchmark assessments, demographics, data from <i>Learning Walkthroughs</i> , stakeholder surveys, or central office processes.	
Data analysis at the district level is conducted collaboratively within and among departmental teams.	
Data analysis results in the identification of specific problems or questions that need to be addressed, e.g., problems at the student level, classroom level, school level, or district level.	
Practice Average:	

Information Composite Average:

Knowledge

Incomplete

Rating Scale: 0 = No Knowledge; 1 = No Evidence; 2 = Emerging Evidence; 3 = Adequate Evidence; 4 = Exemplary Evidence

Root Cause Identification

Rating:

District Data Team members know and implement multiple protocols for the safe discussion of root causes.	
Root cause analysis helps the Team decide on the one potential factor that, if addressed, would eliminate or dramatically alleviate the problem.	
Practice Average:	

Connections to Research and Local Knowledge

Potential root causes and proposed solutions are investigated through the consultation of research to construct strong inferences about possible solutions/action steps.	
Potential root causes and proposed solutions are also investigated through the consultation of local knowledge or expertise to construct strong inferences about possible solutions/action steps.	
Potential root causes and proposed solutions are also investigated through the consultation of information on programs and practices (including data on instruction) to construct strong inferences about possible solutions/action steps.	
Practice Average:	

Shared Knowledge Base

Rating:

The District Data Team keeps and references a problem log or meeting records documenting questions raised to guide further inquiry.	
The District Data Team encourages collection, dissemination, and active use of one or more forms of documentation of lessons learned and promising practices from improvement efforts in a library of local knowledge.	
Practice Average:	

Knowledge Composite Average:

Action

Incomplete

Rating Scale: 0 = No Knowledge; 1 = No Evidence; 2 = Emerging Evidence; 3 = Adequate Evidence; 4 = Exemplary Evidence

Action Planning

Rating:

The District Data Team uses a theory of action to focus action planning efforts.	
The District Data Team uses a defined process for action plan development.	
The action planning process considers ways to refine or reallocate existing resources, structures, and initiatives before proposing brand new ones.	
Action plans identify the available resources necessary to carry out the action steps.	
The district can justify to stakeholders how it uses resources to achieve desired outcomes.	
District personnel can articulate the district's program goals.	
District personnel can articulate their role in achieving program goals.	
Practice Average:	

Action Composite Average:

Results

Incomplete

Rating Scale: 0 = No Knowledge; 1 = No Evidence; 2 = Emerging Evidence; 3 = Adequate Evidence; 4 = Exemplary Evidence

Evaluating Results

Rating:

District personnel have had formal training in program evaluation.	
The district evaluates the efficacy and impact of programs based on student outcomes.	
The district uses a defined process to evaluate programs and initiatives.	
The district's evaluation plans include intermediate and long-term outcomes.	
The district consults its evaluation plans throughout the year.	
The district makes mid-course adjustments to the action plan as necessary, based on formative/progress data.	
The district typically achieves its program goals.	
Practice Average:	

Communicating Results

Rating:

The District Data Team has a process and tools for communicating interim and summative results to stakeholders.	
The district uses the results of program evaluations to inform the development of new programs.	
The district has a process for codifying best practices at the district, school, or classroom level.	
The process for communicating results creates opportunities to solicit feedback to inform the development of new focusing questions.	
Practice Average:	

Results Composite Average:

District Data Team Self-Assessment Results

Rating Scale: 0 = No Knowledge; 1 = No Evidence; 2 = Emerging Evidence; 3 = Adequate Evidence; 4 = Exemplary Evidence

Guiding Questions

What observations do you have as you view the data displays?

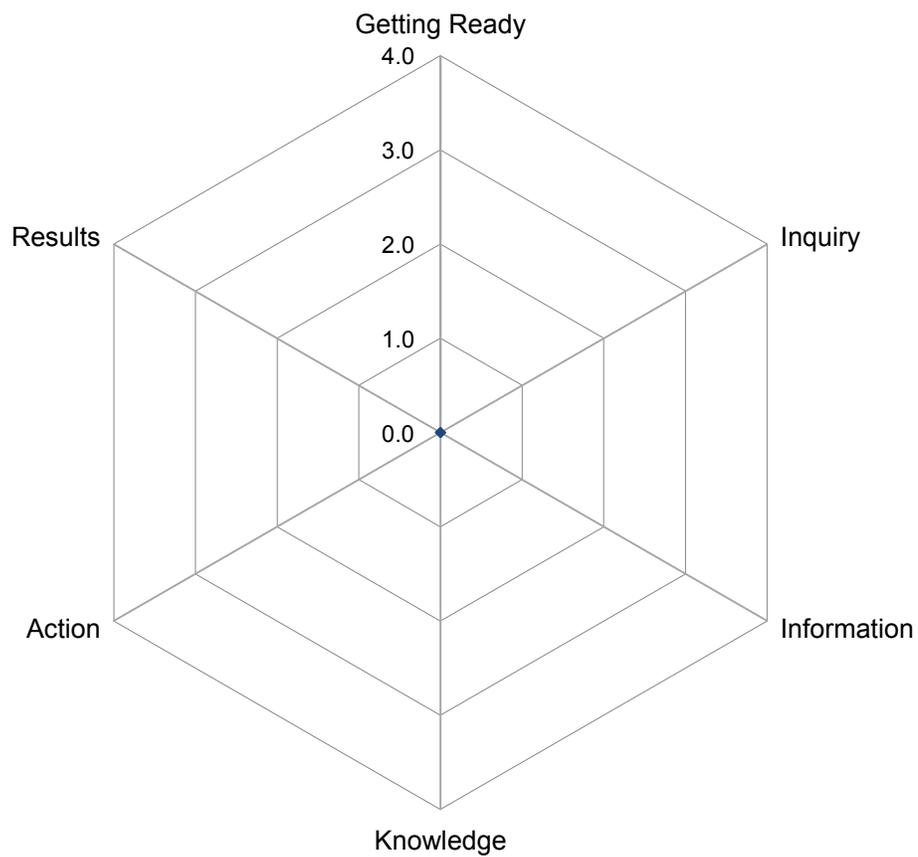
What patterns do you see in the data?

Are there any discrepancies you notice in the data?

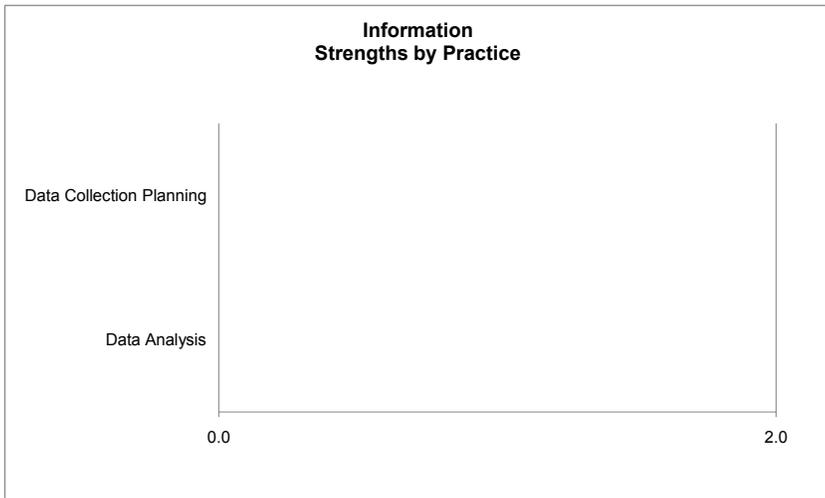
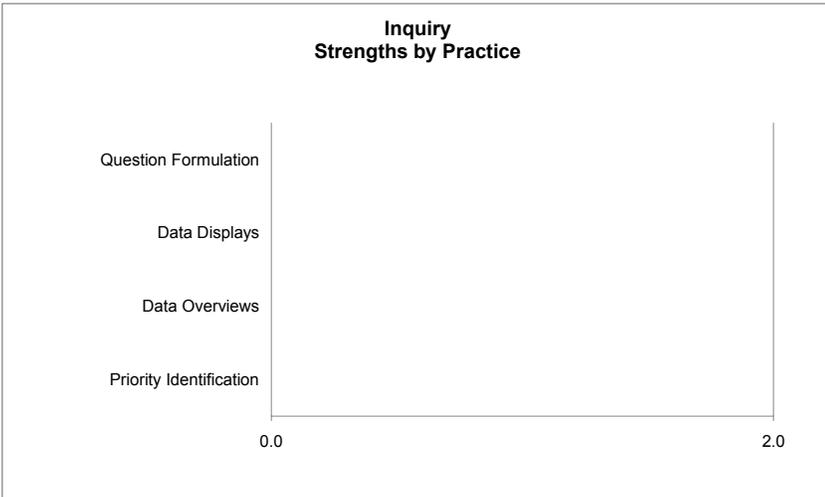
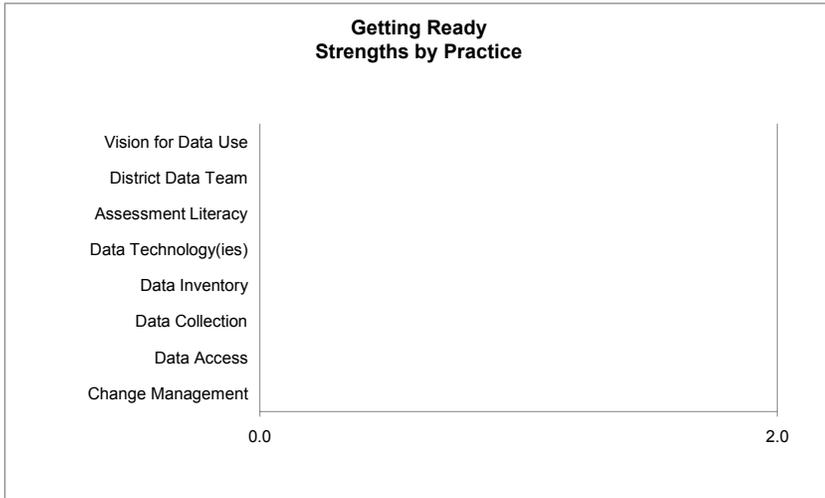
What additional questions do you have based on the data?

What additional information do you gain when looking at the responses to indicators in the survey?

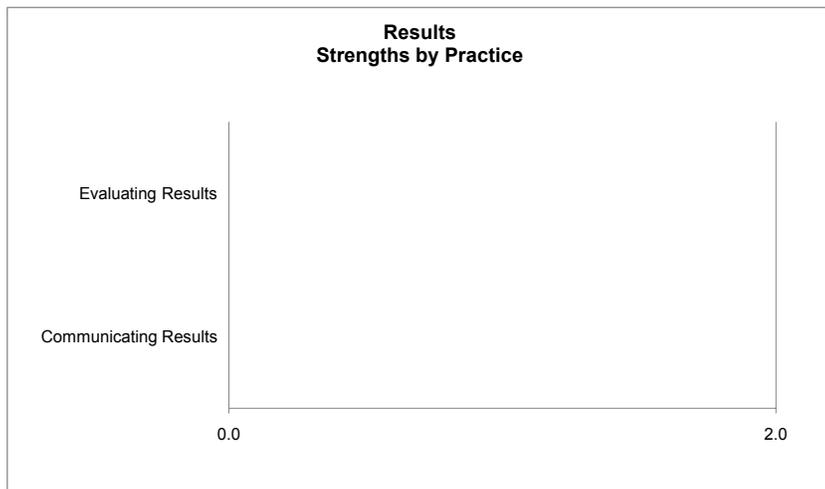
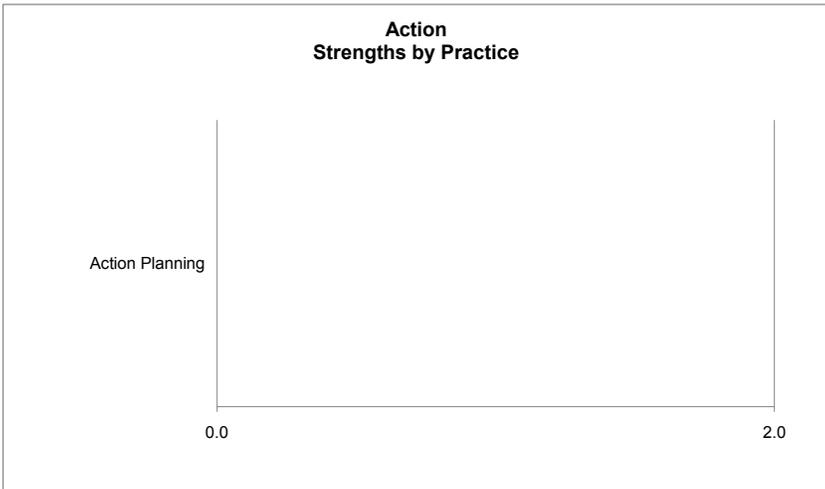
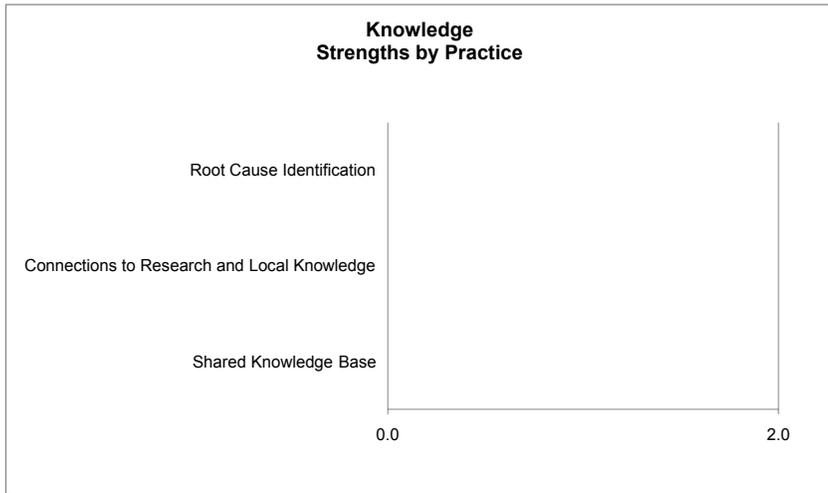
Strengths by Steps



Notes:



Notes:



Notes