



Massachusetts Department of  
**ELEMENTARY & SECONDARY  
 EDUCATION**

## **MODULE 2: INQUIRY**

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### **Tools and Resources for Inquiry**



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## WHERE ARE WE NOW?

The District Data Team Toolkit is based on the Data-Driven Inquiry and Action Cycle. The Cycle provides the structure that takes data use within the district from asking the right questions to getting results. It is an iterative process in which the district acts on data to support continuous improvement. The Toolkit uses the steps of the Cycle to structure a progression through the model—you are now in **Module 2: Inquiry**.



*Module 2: Inquiry* explores the inquiry process first introduced in *Module 1: Getting Ready*. The activities in this module build the capacity of the District Data Team and key stakeholders to formulate hypotheses about problems identified through an initial review of data displays and develop clarifying questions to dig deeper into the data. Techniques for the acquisition of these data and their analysis are addressed in *Module 3: Information* and *Module 4: Knowledge*.

## MODULE OBJECTIVES

The **Inquiry** module will help a District Data Team:

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

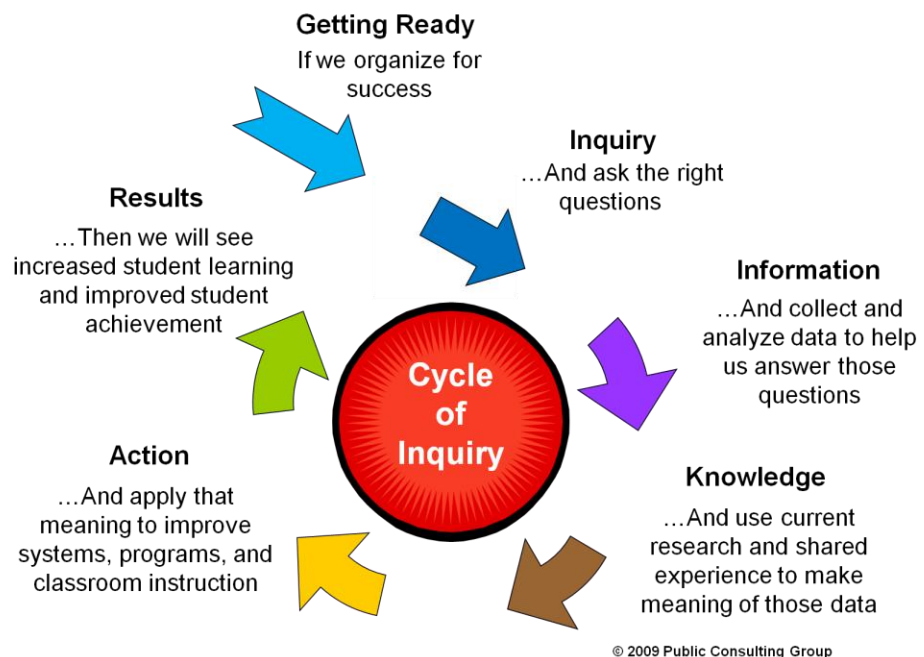


# CULTURE OF INQUIRY

## THE DATA-DRIVEN INQUIRY AND ACTION CYCLE

The Data-Driven Inquiry and Action Cycle drives the effective use of data to answer critical questions about teaching and learning that result in school improvement and higher achievement for all students. If the Team asks the right questions, collects and analyzes appropriate data to address the questions, views the information it has gathered in the context of findings on research and practice to form an appropriate knowledge base, and takes action on the knowledge it has gained, the district and its schools will improve and its students will perform at higher levels.

The modules in this Toolkit take you step-by-step through the Data-Driven Inquiry and Action Cycle and provide you with the tools and resources necessary to effectively implement this collaborative data use framework. *Module 2: Inquiry* initiates this activity.



Data-Driven Inquiry and Action Cycle



## TYPES OF QUESTIONS

Educators ask questions about their district, schools, and students all the time. The questions are based on their observations, experience, gut, and hopefully, on data. The challenge is to craft meaningful questions to drive the inquiry process that are based on all of these sources and that, if answered, will significantly improve teaching and learning in the district.

As the Team formulates questions that will have a direct impact on teaching and learning in the district, it should consider two things.

1. Does the question relate to something over which the district or school has control?
2. Does the question relate to something which, if improved, will have a significant impact on teaching and learning?

Questions about factors that districts and schools can influence form the basis for the action step of the Data-Driven Inquiry and Action Cycle.

The Team may also ask questions about factors that can have an effect on teaching and learning, but that cannot be influenced or changed by districts and schools. These questions are more descriptive in nature and help educators develop a better understanding of their students. This understanding can provide insight into structures and strategies that can be implemented which place teaching and learning in the context of students' experiences.

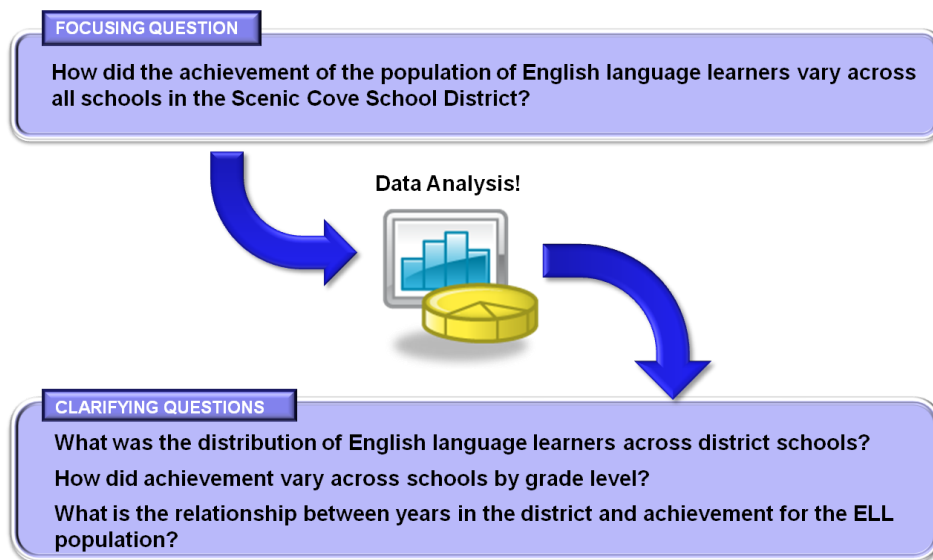
For example, the size and distribution of the low-income student population in a district is not a factor a district can control. However, knowing the size and distribution of this population may suggest that professional development activities are needed to help teachers better understand the student population and what support they need to learn.

As the Team goes through the question formulation process, it will discover that starting with broad questions to focus its inquiry will lead to the development of narrower questions that will deepen the inquiry process. The broad questions are called focusing questions, while the narrower questions are called clarifying questions. Focusing questions provide a starting point to help the Team identify the data it will need to

Questions about factors that districts and schools can influence form the basis for the action step of the Data-Driven Inquiry and Action Cycle.

begin its inquiry. Clarifying questions are generated in response to the analysis of the initial data set and often require the collection and analysis of additional data. In turn, based on this subsequent data collection and analysis, original clarifying questions can become focusing questions for the next phase of inquiry.

### An Inquiry-Driven Approach to Data Analysis: Focusing & Clarifying Questions



## QUESTION FORMULATION

Questions that a Team might want to explore can be formulated based on some of the following considerations: demographics, perceptions, school processes, and student outcomes. Each category provides the district a framework for which it can begin to craft both focusing and clarifying questions from the data gathered. Districts can then use those questions to guide the next steps in the data review process.

Demographics	Perceptions	School Processes	Student Outcomes
Race	Values	Programs	Assessments
Gender	Beliefs	Instruction	Course grades
Special education	Perceptions	Curriculum	GPA
Grade level	teachers, parents, and students have	Processes	Teacher observations
Lunch status	of the learning environment	Policies	Attendance
		Procedures	Dropout rate
		Practices	

## Focusing Questions

Broad questions are called focusing questions. Focusing questions provide a starting point to help a Team identify the data it will need to begin its inquiry. By beginning with the broad categories above, a district can begin the process of looking at data across sets of schools.

## Sample Focusing Questions

Are the district's teachers utilized in the most effective and efficient manner to meet the needs of its students?

Are teachers throughout the district committed to high levels of learning for all types of learners?

Are the programs for special populations effectively meeting their goals?

What are the characteristics and performance levels of students with high absence rates?

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### Activity 2.1 Question Formulation Protocol

Throughout this Toolkit, the Team will use protocols to guide productive discussions on a variety of topics. The *Question Formulation Protocol* will help the District Data Team develop, organize, and prioritize questions to structure its inquiry.

(2.1.1T: Question Formulation Protocol)

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## Clarifying Questions

Narrower questions are called clarifying questions. Focusing questions provide a starting point to help a Team identify the data it will need to begin its inquiry. Clarifying questions are generated in response to the analysis of the initial data set and often require the collection and analysis of additional data. In turn, based on this subsequent data collection and analysis, original clarifying questions can become focusing questions for the next phase of inquiry.

## Sample Clarifying Questions

**Focusing Question #1:** Are the district’s teachers utilized in the most effective and efficient manner to meet the needs of its students?

### Potential Clarifying Questions:

- ◆ What is the ratio between special education students and special education teachers in each of the district’s schools?
- ◆ Are the “highly qualified teachers” equitably distributed across schools in the district?
- ◆ Are teachers assigned to classes in their area of certification?
- ◆ Are the district’s neediest students taught by the most effective teachers?

**Focusing Question #2:** Are teachers throughout the district committed to high levels of learning for all types of learners?

### Potential Clarifying Questions:

- ◆ Are teachers asking all students questions that would foster higher level thinking skills?
- ◆ Are students placed in least restrictive environments with modifications and accommodations being followed?
- ◆ Do students receive instruction in varied ways that meet their individual learning styles?

**Focusing Question #3:** Are the programs for special populations effectively meeting their goals?

### Potential Clarifying Questions:

- ◆ Are students in inclusion programs and substantially separate programs achieving proficiency on the state assessment?
- ◆ Over the past three years, has the performance of English language learners improved by the end of grade 6?



- ◆ Has growth within special populations equaled the growth of the general population?

**Focusing Question #4:** What are the characteristics and performance levels of students with high absence rates?

**Potential Clarifying Questions:**

- ◆ What is the relationship between absenteeism and performance on state assessments?
- ◆ Which subgroups and grade levels have the highest absence rates? Lowest?
- ◆ When does high absenteeism occur throughout the school year?
- ◆ How does the district's absence rate compare to the state?

## ALIGNMENT WITH DISTRICT PRIORITIES

The *Question Formulation Protocol* from the previous activity has helped the Team to define the high-priority starting point for its inquiry. But before the Team begins gathering data to answer its questions, it is important to determine if there are initiatives currently underway in the district that relate to the Team's focusing question, and how further investigation of these questions can be coordinated with these existing initiatives. The *Inventory of District and School Initiatives* tool will help the Team identify and create an inventory of district and/or school initiatives. The Team should follow the instructions in the tool to help it relate those initiatives to its focusing question. This information can serve three key purposes:

- Help the Data Team coordinate efforts with other existing teams
- Help the Team identify data that might be available to inform the inquiry process
- Help the Team avoid redundancy when it gets to the point of developing strategies and action steps (*Module 5*)

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### Activity 2.2 What Current Initiatives Relate to the Focusing Question?

Districts and schools have many initiatives in place at one time. Adding a new initiative that addresses a focusing question may be redundant if the question is already being effectively addressed by an existing initiative. The *Inventory of District and School Initiatives* will identify current initiatives and will provide data on the effectiveness of the implementation of those initiatives.

(2.2.1T: Inventory of District and School Initiatives)

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## DATA OVERVIEW PROCESS

After completing the *Inventory of District and School Initiatives* activity in the previous section, the Team should be ready to proceed with its inquiry. The next step in the collaborative inquiry process is to share the focusing question and related data with an appropriate audience by creating and presenting a data overview.

The primary objective of a data overview is to enable stakeholders to collaboratively interact with data related to the focusing question in order to generate clarifying questions that will drive the inquiry process forward. These clarifying questions will serve to focus subsequent efforts in data collection and analysis.

To achieve this objective, the District Data Team must build user-friendly data displays that tell a valid and interesting story about the focusing question. The District Data Team must then involve stakeholders in the collaborative analysis of the data and the creation of clarifying questions.

### ANATOMY OF A DATA OVERVIEW

The data overview is a presentation (usually accompanied by PowerPoint) designed to introduce to stakeholders preliminary data related to a focusing question.

The specific content of a data overview will vary based on the audience (administrative team, full faculty, department faculty, specialists), but the purpose and structure remain constant. A typical data overview meeting will contain the following sections.

#### Typical Agenda of a Data Overview Meeting

##### Welcome and Introductions

- Outline the data overview presentation so that the audience understands the purpose, structure, and outcomes of the meeting.
- A quick roll call or introductions so everyone knows who is in the audience, e.g., who here is a teacher, family member, or district administrator.

- 
- Purpose**
- Clearly state the purpose for the data overview in terms of the focusing question(s) that is being explored.

- 
- Data Displays**
- Use well-developed data displays that clearly tell a story related to the focusing question(s) and stimulate constructive conversations.
  - Collectively make factual observations (no inferences) about each data display.

- 
- Brainstorming Session**
- Formulate hypotheses that might explain the data.
  - Pose clarifying questions to guide the exploration of the hypotheses.
  - Identify the kinds of data needed to answer the questions and suggest ways to collect the additional data.

- 
- Next Steps**
- Discuss next steps, such as action items from the meeting, e.g., who will collect additional data and by when, and the date and time of the next meeting.
- 

When planning a data overview, it is important for the Data Team to consider the audience and context and adjust the presentation accordingly. To do this, the Team might consider:

- What is the level of data literacy of the audience, e.g., principals, teachers, students, families, union representatives, school committee, or community members?
- What questions might these stakeholders already be considering in relation to the focus of inquiry?
- What barriers to data use (from 1.1.17) might be relevant to this audience, and how could the data overview help address them?

When planning a data overview, it is important for the Data Team to consider the audience and context and adjust the presentation accordingly.

The data overview should result in at least two specific outcomes. The set of clarifying questions developed through the brainstorming protocol and the identification of related data help guide the next steps in the inquiry process. Additionally, as the group engages with the data and formulates hypotheses and clarifying questions, they increase their capacity for inquiry and become invested in the process. This buy-in is critical for subsequent processes and is crucial toward creating a district-wide culture of inquiry.



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### Activity 2.3 Anatomy of a Data Overview

In this activity, you will review and critique a sample data overview presented by the Scenic Cove District Data Team. Review the PowerPoint presentation and use the *Data Overview Checklist* to determine if all of the essential elements are present. As a District Data Team, discuss how the *Scenic Cove School District ELA Data Overview* could be improved.

(2.3.1T: Data Overview Checklist)

(2.3.2R: Data Overview Example)

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## PREPARING A DATA OVERVIEW

Building a data overview starts with articulating a focusing question. To prepare, return to the Team's work in *2.1 Question Formulation Protocol*. Select one of the focusing questions the Team developed and identify and gather high-level data necessary to begin exploring it. This focusing question will guide the creation of a data display. By creating a well thought out focusing question, engaging in collaborative discussion around that question, and by skillfully using data, the Team will begin to build a story, and ultimately, this should also help the Team identify and refine the clarifying questions and accompanying data displays.

### BUILDING A DATA DISPLAY

At the center of any data overview sit quality data displays. Constructing these displays requires careful thought and effort to ensure that the data are displayed in a way that connect to the focusing question and inspire clarifying questions that will drive deeper inquiry by the audience.

Quality data displays need to:

- Tell the whole story
- Have complete, accurate, and timely data
- Contain all relevant and pertinent data
- Be readable and understandable

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#### Activity 2.4 Building a Data Display

The *Building Data Displays Protocol* enables District Data Team members to apply the principles of data display construction to tell a story related to a focusing question. The *Data Display Rubric* provides a framework for the Team to assess the quality of the data displays it creates. The *Types of Data Displays* and *More Data Display Resources* provide some ideas for different ways that data can be represented.

(2.4.1T: Building Data Displays Protocol)  
(2.4.2R: Data Display Rubric)  
(2.4.3R: Types of Data Displays)  
(2.4.4R: More Data Display Resources)

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## DESIGNING THE DATA OVERVIEW

Once the data displays are built and designed, the data overview will begin to take shape and the Team will be ready to craft the rest of the presentation. The agenda should follow the model outlined earlier.

- ▶ Purpose
- ▶ Agenda
- ▶ Data displays driven by a focusing question and additional clarifying questions that tell a story
  - Make observations about the data (no inferences)
  - Record observations on chart paper
- ▶ Structured brainstorming session
  - What might lie behind what the group is seeing in the data? (careful inferences)
  - What additional questions does the group have?
  - What additional data are needed to answer those questions?
- ▶ Identify next steps
  - What data need to be collected?
  - Who will collect it?
  - When will a follow-up meeting occur?

Working with the Team, construct a presentation in PowerPoint using the data displays that have been built. It may be helpful to first storyboard the presentation on chart paper with the Team. Return as necessary to *Activities 2.3* and *2.5* to create and refine data displays that support the Team's central theme.

With the data displays freshly made and assessed and the presentation assembled, the Team is ready to engage a larger audience in the inquiry process. Plan the meeting and deliver the data overview that the Team has created.

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### Activity 2.5 Delivering the Data Overview



These tools will help the Team deliver a data overview and follow up afterwards. The results of this work will lead the Team into *Module 3: Information* and serve as the foundation for the rest of the inquiry cycle throughout this Toolkit.

(2.5.1T: Data Overview Brainstorming Protocol)  
(2.5.2T: Focusing Question Investigation Template)

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This module provides an overview of the Data-Driven Inquiry and Action Cycle, which can serve as the foundation for conducting an inquiry process. It launches the inquiry process by helping a District Data Team formulate a meaningful focusing question that is of high interest to the district and that will guide its inquiry process.

The module includes tools to help a District Data Team build its capacity to design meaningful data displays and present them in an effective data overview to targeted audiences. This approach can help engage stakeholders in the inquiry process, as well as inform the process of generating clarifying questions that refine the focus of the inquiry and identifying the data needed to provide insight on those questions.

A District Data Team should emerge from this stage of the process with clearly articulated focusing and clarifying questions, as well as a list of data it plans to collect and analyze to answer those questions.

Answers to the clarifying questions generated through this process will require the collection and analysis of additional data—the subject of the next module in the District Data Team Toolkit—*Module 3: Information*.

## REFERENCES

Sagor, R. (1992). *How to conduct collaborative action research*. Alexandria, VA: Association for Supervision and Curriculum Development (ASCD).

*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](mailto:districtassist@doe.mass.edu).*







## QUESTION FORMULATION PROTOCOL 2.1.1T

<b>Purpose</b>	To formulate a focusing question derived from an issue of importance to your district.
<b>Description</b>	This protocol will help the District Data Team develop, organize, and prioritize questions to structure inquiry.
<b>Time</b>	About 30 minutes.

**Related Documents**  
2–Inquiry Module

### Directions

1. Identify an issue in your district that you as a District Data Team wish to address. Write the issue on the top of a piece of chart paper. It can be formulated as a statement or question. Your issue/question should be related to student outcomes.  
**5 minutes**
2. As a Team, brainstorm questions that stem from the original question/statement. Write the questions as stated on the chart paper. All items must be phrased as questions. Your questions should be related to student outcomes.  
**15 minutes**
3. From this group of questions, identify three questions that deal with issues that the district has control over and which, if positively resolved, will have a significant impact on teaching and learning. Out of these three, identify the top priority question.  
**10 minutes**
4. Your top priority question should serve as the focusing question to initiate the Data-Driven Inquiry and Action Cycle.





<b>Purpose</b>	To identify data sources and help avoid redundancy in relation to district/school initiatives that address the focusing question the District Data Team has decided to investigate.
<b>Description</b>	Districts and schools may have multiple initiatives in place at one time. Adding a new initiative that is potentially related to or has an impact on the focusing question may be redundant if the question is already being effectively addressed by an existing initiative. The <i>Inventory of District and School Initiatives</i> will identify current initiatives and will provide data on the effectiveness of the implementation of those initiatives.
<b>Time</b>	Approximately 1 hour.

<b>Related Documents</b> 2–Inquiry Module
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### Directions

As a District Data Team, think about the initiatives/programs that are currently part of the improvement efforts in your district. List each initiative/program in the *Inventory of District and School Initiatives* on the following page. For each, provide the information indicated in the columns to the right of the initiative name. The District Data Team may have to call upon others in the district to help provide the required information.

- ▶ After you have gathered the required data on each initiative, determine which initiative/program(s) is directly related to your focusing question.
- ▶ For the related initiatives/programs, consult the Effectiveness of Implementation and Desired Outcomes columns (3–5) to determine which appear to be addressing your focusing questions effectively.
- ▶ If, as a District Data Team, you feel you need to gather more data to determine effectiveness, collect the data and re-evaluate the initiatives.
- ▶ If the consensus of all relevant parties is that the initiative is achieving the desired result, select a new focusing question. If not, move forward with the inquiry.

**Instructions:** Think about the initiatives/programs you currently have running as part of the school improvement efforts in your district. Provide information about each initiative in the table below.

**District Name:**

Inventory of Instructional Initiatives					
Name of Instructional Initiative	Staff Responsible for Implementation	Effectiveness of Implementation and Desired Outcomes		Evidence of Desired Outcomes	Other Evidence that Would be Helpful to Collect
		Teachers Implementing 4 = All (100%) 3 = Most (>75%) 2 = Some (25–75%) 1 = Few (<25%)	Extent of Implementation 4 = Complete 3 = Progressing 2 = Partially/Weak 1 = Just beginning		



# DATA OVERVIEW CHECKLIST

2.3.1T

<b>Purpose</b>	To provide the District Data Team with an example of a data overview presentation.
<b>Description</b>	In this activity, you will review and critique a sample data overview presented by the Scenic Cove District Data Team. Review the PowerPoint presentation and use the <i>Data Overview Checklist</i> to determine if all of the essential elements are present. As a District Data Team, discuss how the <i>Scenic Cove School District ELA Data Overview</i> could be improved.
<b>Time</b>	Approximately 1 hour.

<b>Related Documents</b> 2–Inquiry Module 2.3.2R: Scenic Cove School District ELA Data Overview
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## DATA OVERVIEW CHECKLIST

District/School Name: \_\_\_\_\_

Date: \_\_\_\_\_

Format & Structure	Y/N
<b>Does your Data Overview:</b>	
• Identify the audience that will participate in the overview?	
• Have a purpose?	
• Have an agenda?	
• Contain data displays driven by a focusing question?	
• Include a structured brainstorming session?	
• Identify next steps?	
• Will the format and structure of your data overview result in specific outcomes that will move inquiry forward?	
Agenda	Y/N
<b>Does your Agenda:</b>	
• State the purpose of the data overview session?	
• List the data displays to be reviewed?	
• List the steps in the brainstorming process?	
• Include identifying next steps?	

<b>Data Displays</b>	<b>Y/N</b>
<b>Do the Data Displays:</b>	
<ul style="list-style-type: none"> <li>• Contain the attributes of a good chart?</li> </ul>	
<ul style="list-style-type: none"> <li>• Appear free of unnecessary detail and extraneous features?</li> </ul>	
<ul style="list-style-type: none"> <li>• Use the most appropriate chart style to display the data?</li> </ul>	
<ul style="list-style-type: none"> <li>• Tell the story that you want to convey about the data?</li> </ul>	
<b>Brainstorming</b>	<b>Y/N</b>
<b>Will the structure of the Brainstorming activity result in:</b>	
<ul style="list-style-type: none"> <li>• The identification of problems evident in the data?</li> </ul>	
<ul style="list-style-type: none"> <li>• The identified problems being listed in priority order?</li> </ul>	
<ul style="list-style-type: none"> <li>• The formulation of hypotheses to explain the problem?</li> </ul>	
<ul style="list-style-type: none"> <li>• Clarifying questions to further direct the inquiry?</li> </ul>	
<ul style="list-style-type: none"> <li>• The identification of additional data needed and potential data sources?</li> </ul>	
<b>Next Steps</b>	<b>Y/N</b>
<b>Do the identified Next Steps:</b>	
<ul style="list-style-type: none"> <li>• Logically follow from the outcomes of the brainstorming session?</li> </ul>	
<ul style="list-style-type: none"> <li>• Contain action items?</li> </ul>	
<ul style="list-style-type: none"> <li>• State the date and time of the next meeting?</li> </ul>	
<ul style="list-style-type: none"> <li>• Identify the audience and/or participants in the next meeting?</li> </ul>	



## DATA OVERVIEW EXAMPLE

2.3.2R

<b>Purpose</b>	To provide the District Data Team with an example of a data overview presentation.	<b>Related Documents</b> 2–Inquiry Module 2.3.1T: Data Overview Checklist
<b>Description</b>	In this activity, you will review and critique a sample data overview presented by the Scenic Cove District Data Team. Review the PowerPoint presentation and use the <i>Data Overview Checklist</i> to determine if all of the essential elements are present. As a District Data Team, discuss how the <i>Scenic Cove School District ELA Data Overview</i> could be improved.	
<b>Time</b>	Approximately 1 hour.	

# Scenic Cove School District

Data Overview Presentation, September 2009

Presented by the District Data Team



# Agenda

1. Purpose of this presentation
2. Presentation of relevant data displays
3. Collaboratively brainstorm to:
  - Identify and prioritize a problem evident in the data
  - Formulate hypotheses to explain the problem
  - Generate clarifying questions to direct further inquiry
  - Identify additional data needed and potential data sources
4. Discuss next steps

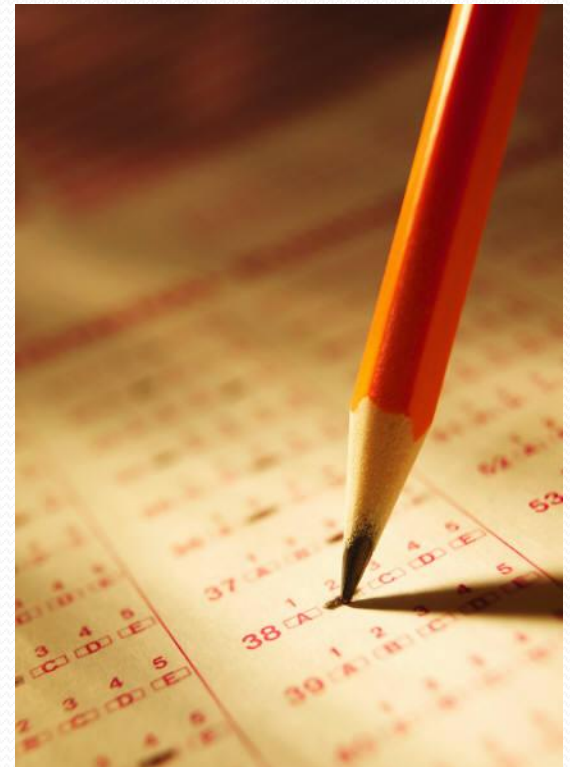
# The Issues

- The academic performance of English language learners (ELLs) in the Scenic Cove School District is lower than the statewide population of ELLs at several grade levels on 2009 MCAS English Language Arts (ELA) tests.
- The academic performance of ELLs in the district lags behind their native English-speaking peers.
- The academic performance of ELLs in the district falls below established NCLB performance and improvement targets.

# Purpose

To begin the process of collaborative inquiry that will address the focusing questions:

1. What does the performance of ELLs in the district look like over time on MCAS ELA tests?
2. How does the performance of ELLs in the district compare to that of ELLs state-wide on the 2009 MCAS ELA test?
3. Why is the performance of ELLs in some grades closer to the state average than others on the 2009 MCAS ELA test?
4. What is the performance of ELLs in targeted grades in district schools on the 2009 MCAS ELA test?
5. How does the performance of ELLs in the district compare to the state on the 2009 MEPA test?



What does the performance of ELLs in the district look like over time on MCAS ELA tests?

Tests Administered as values		2006	2007	2008	2009	2006–2009 Change
3	<i>A/P</i>	25.3%	23.3%	31.5%	27.1%	1.8%
	<i>NI</i>	51.6%	47.8%	41.6%	38.6%	-13.0%
	<i>W/F</i>	23.2%	28.9%	27.0%	34.3%	11.1%
4	<i>A/P</i>	3.7%	11.5%	11.8%	14.6%	10.9%
	<i>NI</i>	53.2%	39.7%	38.2%	43.9%	-9.3%
	<i>W/F</i>	43.1%	48.7%	50.0%	41.5%	-1.6%
5	<i>A/P</i>	2.6%	8.0%	1.7%	9.6%	7%
	<i>NI</i>	40.2%	27.6%	14.8%	33.7%	-6.5%
	<i>W/F</i>	57.3%	64.4%	83.5%	56.6%	-0.7%
6	<i>A/P</i>	5.0%	6.3%	15.9%	11.5%	6.5%
	<i>NI</i>	26.7%	33.3%	36.5%	32.8%	6.1%
	<i>W/F</i>	68.3%	60.3%	47.6%	55.7%	-12.6%
7	<i>A/P</i>	10.0%	1.5%	9.4%	9.7%	-0.3%
	<i>NI</i>	20.0%	27.3%	25.0%	29.2%	9.2%
	<i>W/F</i>	70.0%	71.2%	65.6%	61.1%	-8.9%
8	<i>A/P</i>	4.5%	7.8%	7.4%	7.8%	3.3%
	<i>NI</i>	22.7%	18.9%	25.3%	20.7%	-2.0%
	<i>W/F</i>	72.7%	73.3%	67.4%	71.6%	-1.1%
10	<i>A/P</i>	16.3%	4.7%	5.9%	3.0%	-13.3%
	<i>NI</i>	46.5%	31.3%	35.3%	19.7%	-26.8%
	<i>W/F</i>	37.2%	64.1%	58.8%	77.3%	40.1%

Source: Data Warehouse > Public Folders > ESE Cubes > MCAS Official Release 2009

How does the performance of ELLs in the district compare to that of ELLs state-wide on the 2009 MCAS ELA test?

		District	State	Difference
Tests Administered as values		2009	2009	
<b>3</b> (N = 70)	<i>A/P</i>	27.1%	26.2%	0.9%
	<i>NI</i>	38.6%	40.7%	-2.1%
	<i>W/F</i>	34.3%	33.0%	1.3%
<b>4</b> (N = 82)	<i>A/P</i>	14.6%	18.0%	-3.4%
	<i>NI</i>	43.9%	46.8%	-2.9%
	<i>W/F</i>	41.5%	35.2%	6.3%
<b>5</b> (N = 83)	<i>A/P</i>	9.6%	16.3%	-6.7%
	<i>NI</i>	33.7%	40.5%	-6.8%
	<i>W/F</i>	56.6%	43.2%	13.4%
<b>6</b> (N = 61)	<i>A/P</i>	11.5%	18.7%	-7.2%
	<i>NI</i>	32.8%	34.3%	-1.5%
	<i>W/F</i>	55.7%	47.0%	8.7%
<b>7</b> (N = 72)	<i>A/P</i>	9.7%	13.1%	-3.4%
	<i>NI</i>	29.2%	34.7%	-5.5%
	<i>W/F</i>	61.1%	52.2%	8.9%
<b>8</b> (N = 116)	<i>A/P</i>	7.8%	12.9%	-5.1%
	<i>NI</i>	20.7%	27.0%	-6.3%
	<i>W/F</i>	71.6%	60.1%	11.5%
<b>10</b> (N = 66)	<i>A/P</i>	3.0%	21.8%	-18.8%
	<i>NI</i>	19.7%	36.8%	-17.1%
	<i>W/F</i>	77.3%	41.4%	35.9%

Source: Data Warehouse > Public Folders > ESE Cubes > MCAS Official Release 2009

Why is the performance of ELLs in some grades closer to the state average than others on the 2009 MCAS ELA test?

		District	State	Difference
Tests Administered as values		2009	2009	
<b>3</b> (N = 70)	<i>A/P</i>	27.1%	26.2%	0.9%
	<i>NI</i>	38.6%	40.7%	-2.1%
	<i>W/F</i>	34.3%	33.0%	1.3%
<b>4</b> (N = 82)	<i>A/P</i>	14.6%	18.0%	-3.4%
	<i>NI</i>	43.9%	46.8%	-2.9%
	<i>W/F</i>	41.5%	35.2%	6.3%
<b>5</b> (N = 83)	<i>A/P</i>	9.6%	16.3%	-6.7%
	<i>NI</i>	33.7%	40.5%	-6.8%
	<i>W/F</i>	56.6%	43.2%	13.4%
<b>6</b> (N = 61)	<i>A/P</i>	11.5%	18.7%	-7.2%
	<i>NI</i>	32.8%	34.3%	-1.5%
	<i>W/F</i>	55.7%	47.0%	8.7%
<b>7</b> (N = 72)	<i>A/P</i>	9.7%	13.1%	-3.4%
	<i>NI</i>	29.2%	34.7%	-5.5%
	<i>W/F</i>	61.1%	52.2%	8.9%
<b>8</b> (N = 116)	<i>A/P</i>	7.8%	12.9%	-5.1%
	<i>NI</i>	20.7%	27.0%	-6.3%
	<i>W/F</i>	71.6%	60.1%	11.5%
<b>10</b> (N = 66)	<i>A/P</i>	3.0%	21.8%	-18.8%
	<i>NI</i>	19.7%	36.8%	-17.1%
	<i>W/F</i>	77.3%	41.4%	35.9%

Source: Data Warehouse > Public Folders > ESE Cubes > MCAS Official Release 2009

## What is the performance of ELLs in targeted grades in district schools on the 2009 MCAS ELA test?\*

		Sea Breeze ES	Sea Gull ES	Golden Sands ES	Rip Tide ES	Coral ES
Tests Administered as Values		2009	2009	2009	2009	2009
<b>3</b>	<i>N</i>	4	21	0	0	32
	<i>A/P</i>	100.0%	23.8%			21.9%
	<i>NI</i>	0.0%	23.8%			56.3%
	<i>W/F</i>	0.0%	52.4%			21.9%
<b>4</b>	<i>N</i>	6	2	4	2	49
	<i>A/P</i>	16.7%	0.0%	0.0%	0.0%	18.4%
	<i>NI</i>	83.3%	0.0%	100.0%	100.0%	34.7%
	<i>W/F</i>	0.0%	100.0%	0.0%	0.0%	46.9%
<b>5</b>	<i>N</i>	3	5	15	42	0
	<i>A/P</i>	100.0%	0.0%	0.0%	2.4%	
	<i>NI</i>	0.0%	0.0%	60.0%	31.0%	
	<i>W/F</i>	0.0%	100.0%	40.0%	66.7%	

\*Minimum 10 Students

Source: Data Warehouse > Public Folders > ESE Cubes > MCAS Official Release 2009

## What is the performance of ELLs in targeted grades in district schools on the 2009 MCAS ELA test?\*

		Coastal MS	Rock MS
Tests Administered as Values		2009	2009
<b>6</b>	<i>N</i>	53	8
	<i>A/P</i>	13.2%	
	<i>NI</i>	34.0%	25.0%
	<i>W/F</i>	52.8%	75.0%
<b>7</b>	<i>N</i>	70	2
	<i>A/P</i>	10.0%	
	<i>NI</i>	30.0%	
	<i>W/F</i>	60.0%	100.0%
<b>8</b>	<i>N</i>	95	18
	<i>A/P</i>	2.1%	27.8%
	<i>NI</i>	20.0%	22.2%
	<i>W/F</i>	77.9%	50.0%

\*Minimum 10 Students

Source: Data Warehouse > Public Folders > ESE Cubes > MCAS Official Release 2009



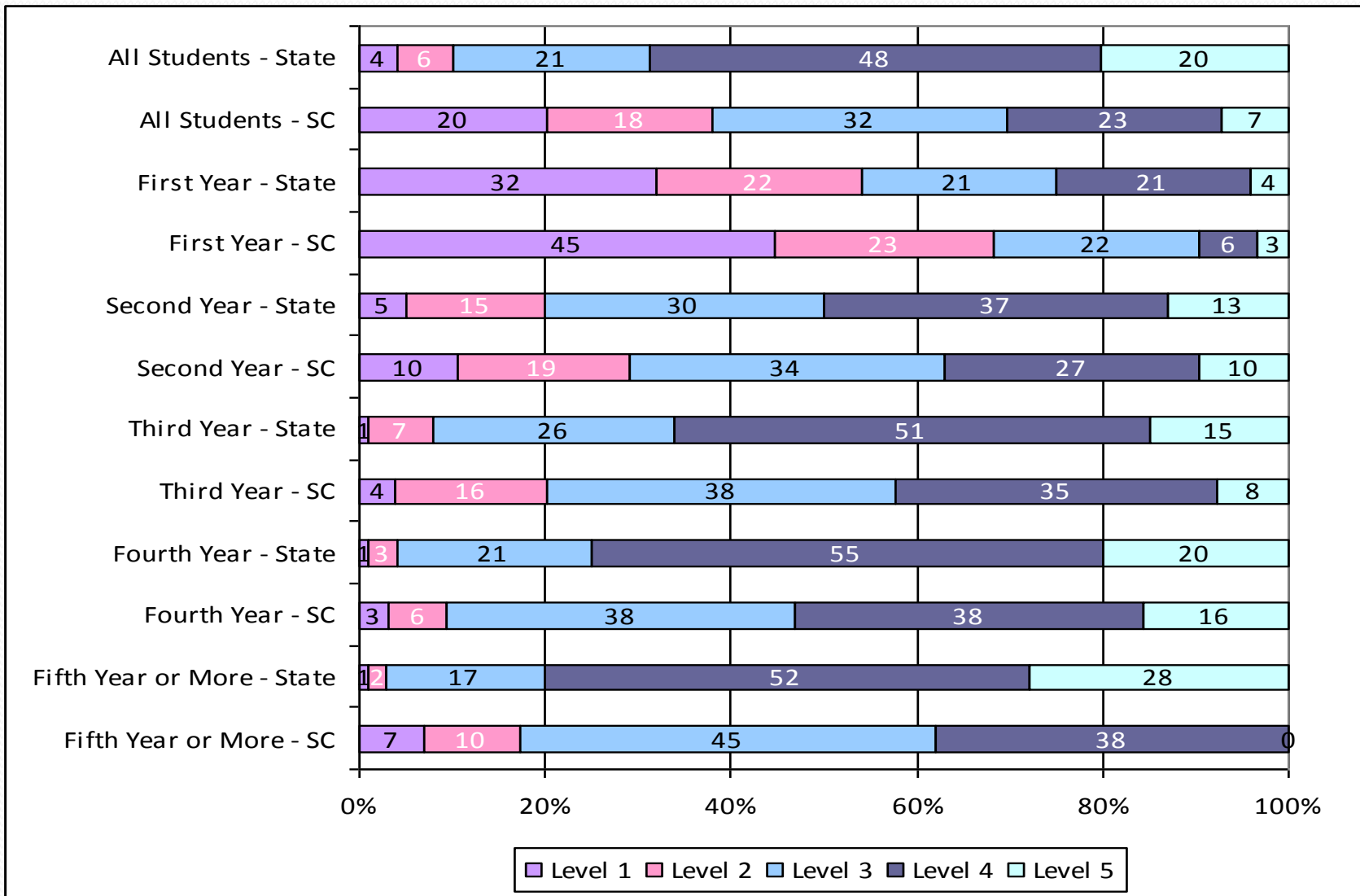
# What is the performance of ELLs in targeted grades in district schools on the 2009 MCAS ELA test?\*

		<b>Ebb Tide HS</b>
<b>Tests Administered as values</b>		<b>2009</b>
<b>10</b>	<i><b>N</b></i>	66
	<i><b>A/P</b></i>	3.0%
	<i><b>NI</b></i>	19.7%
	<i><b>W/F</b></i>	77.3%

\*Minimum 10 Students

Source: Data Warehouse > Public Folders > ESE Cubes > MCAS  
Official Release 2009

# Spring 2009 MEPA Results: Percentage of Students at Each Performance Level by Years of Enrollment in the State and Scenic Cove



Source: Massachusetts English Proficiency Assessment (MEPA) Statewide Results: Spring 2009; Spring 2009 MEPA Results by District

<http://www.doe.mass.edu/mcas/mepa/results.html>

# Brainstorm Groups

Group A	Group B	Group C	Group D
Jerry	Jill	Colleen	Kerry
Maria	Saleem	Michelle	Alex
Jose	Jeff	Clarence	Jordan
Roger	Patricia	Cindy	Ann

# Brainstorm!

Purpose	To collaboratively investigate the focusing question.
What you will do?	Using the <i>Data Overview Brainstorming Protocol</i> , you will make observations, identify problems, form hypotheses, and craft clarifying questions related to the focusing question.
Estimated Time	About 30 minutes.

# Next Steps

- What additional data do we need to collect?
- Who will collect the data?
- How will the data be collected?
- When will we have collected the data?
- Who will analyze the data?
- What materials should we have for the next meeting?
- Next meeting date and time?





<b>Purpose</b>	To build data displays based on data related to the focusing question.
<b>Description</b>	This activity enables District Data Team members to apply the principles of data display construction to tell a story related to the focusing question.
<b>Time</b>	Approximately 1 hour.

### Related Documents

2–Inquiry Module  
2.4.2R: Data Display Rubric  
2.4.3R: Types of Data Displays  
2.4.4R: More Data Display Resources

During this activity, the District Data Team will work collaboratively to create a strong data display for the selected focusing question. Before beginning, review and become familiar with the related tools and resources listed above. These should be used each time you prepare a data display.

## Directions

1. As a District Data Team, restate the focusing question you crafted in *2.1.1.T: Question Formulation Protocol* and post it for all to see.

**For example: How did the achievement of the population of English language learners vary across all schools in the Scenic Cove School District?**

2. Examine a few sources of high-level district data, such as MCAS/AYP reports or student growth data. Think individually, then discuss as a Team: *What do you see in the data that relates to the focusing question?* As a Team, brainstorm and chart the collective observations for all to see. Be sure to make only factual observations and interpretations about what the data appear to say—don't make inferences from the data.
3. Each member of the District Data Team should now sketch on a piece of chart paper a data display that illustrates what s/he thinks are the most important observations. Refer to *2.4.3R: Types of Data Displays* for guidance regarding the construction of data displays. Post the data displays for the whole District Data Team to review.

Note: This next section works best in groups of 3–4.

4. Each District Data Team member should present one data display to the balance of the Team or to one of the small groups. Number the data displays to identify them later.
5. Each presenter should ask group members what they see in the data (observations, not inferences). Presenters should record observations on chart paper for each display. (5–10 minutes).
6. Then each member should explain to the group:
  - Why s/he chose a particular display type
  - What story s/he wanted to tell with the display that s/he selected
  - What clarifying questions the display elicits for him/her (5–10 minutes)
7. After each presentation, each person fills out the *Data Display Rubric* for each data display, including the presenters.

8. Repeat this process until all have presented his or her display.
9. Think individually and discuss as a Team: *How do the sketches compare?* Be sure to record answers for future reference.
10. Regroup as a District Data Team. Review the feedback on each data display. Spend about 5–10 minutes digesting and summarizing the feedback. Note common themes across data displays. Discuss the various sketches that Team members created and reach consensus as a District Data Team on the data displays that best communicate the story to be told about the data.
11. Save all of the sketches for future reference.

### Alternative Approach

1. Have District Data Team members work in pairs to collaboratively develop each data display.
2. Often there is more than one story to be told by a set of data. See how many different valid and interesting stories about the data can be told using different data displays.





## DATA DISPLAY RUBRIC

2.4.2R

<b>Purpose</b>	To assess the quality of data displays and gain feedback to improve them.
<b>Description</b>	This rubric can be used to assess the quality of a data display. It can be used with the <i>Data Display Feedback Protocol</i> to gain group input, or can be used as a tool for individual reflection.
<b>Time</b>	15 minutes.

### Related Documents

2–Inquiry Module  
2.4.1T: Building Data Displays Protocol  
2.4.3R: Types of Data Displays  
2.4.4R: More Data Display Resources

**Focusing Question Driving the Data Display:** \_\_\_\_\_

**Data Display Number:** \_\_\_\_\_

Use the scale provided below to rate each of the following statements about the data display.

**4** = Excellent: No change needed

**3** = Good: Some changes needed

**2** = OK: Moderate changes should be made

**1** = Not So Good: Needs extensive rework

Question	Rating	Comments
1. The data display contains attributes of an effective data display: all axes are labeled and the display includes an informative title; population assessed; number and percent of students; subject and test; and when they were assessed.		
2. The data display is uncluttered and free of unnecessary detail and extraneous features.		
3. The data display uses an appropriate choice of chart style, e.g., clustered bar chart, correlation chart, scatter chart.		

Answer the following questions with an open response.

Question	Response
4. What do you like about this data display?	
5. Is there anything that makes it difficult to understand?	
6. What are some concrete suggestions that could make this display more effective or easier to understand?	



## TYPES OF DATA DISPLAYS

## 2.4.3R

<b>Purpose</b>	To understand various types of data displays and their potential uses.
<b>Description</b>	This resource can help a Team choose data displays that will be most useful for engaging in thoughtful data analysis or communication with stakeholders.
<b>Time</b>	Ongoing.

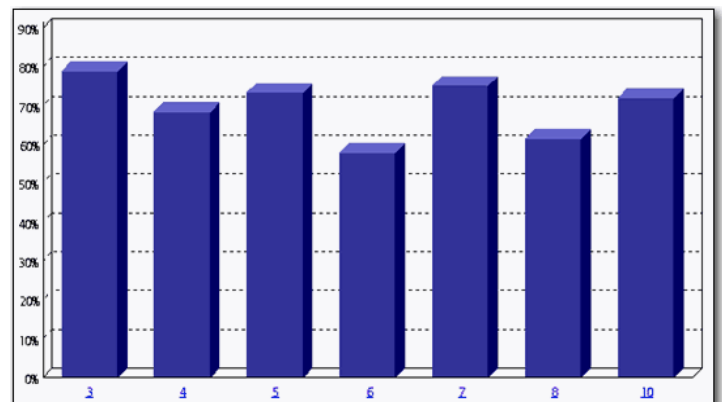
### Related Documents

2–Inquiry Module  
 2.4.1T: Building Data Displays Protocol  
 2.4.2R: Data Display Rubric  
 2.4.4R: More Data Display Resources

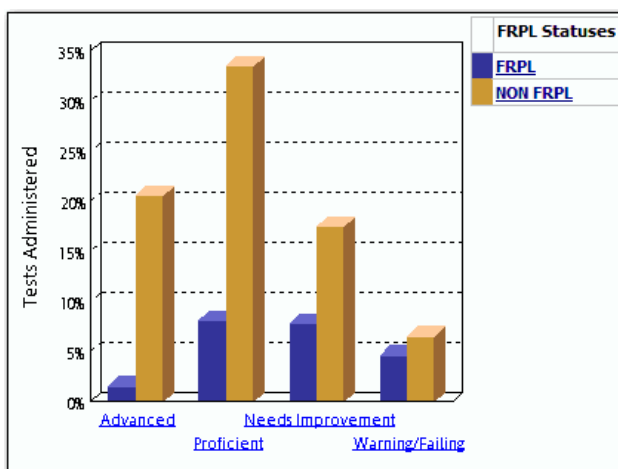
### Simple Bar Chart

A simple bar chart shows a frequency distribution for a single variable, e.g., percent Proficient, on a specific measure for components within a single category, e.g., grade-level populations. Each bar displays the results for each individual category component (as opposed to relative distribution, as in a pie chart). A simple bar chart can answer questions such as:

- What percent of students in each grade level achieved Proficiency for a particular school year?
- How do the results for one population subgroup compare to those of other subgroups?



### Clustered Bar Chart



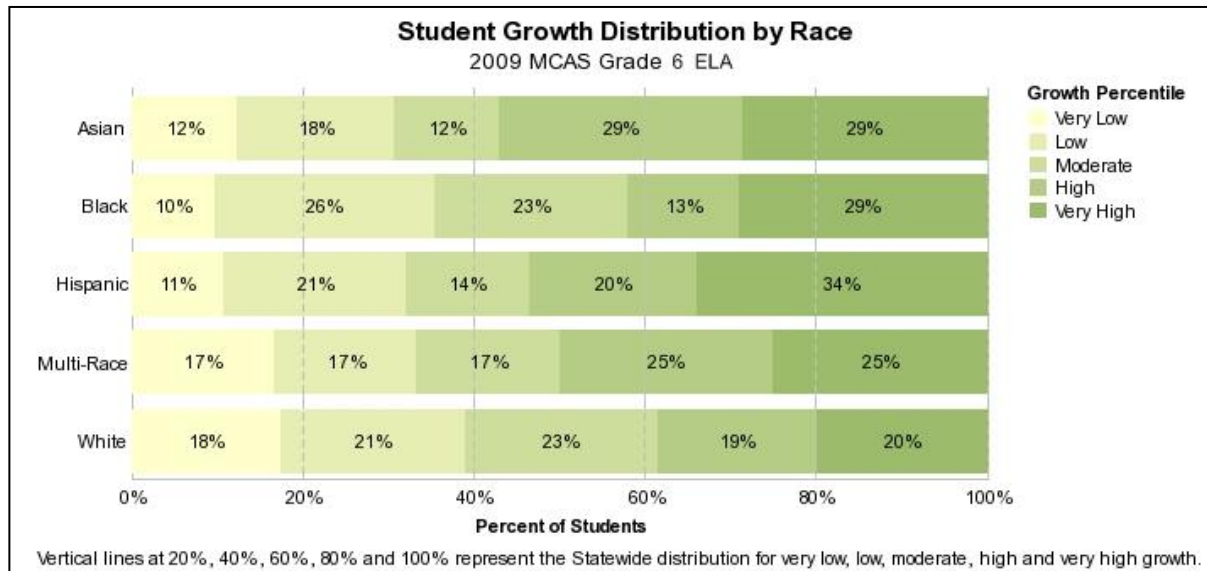
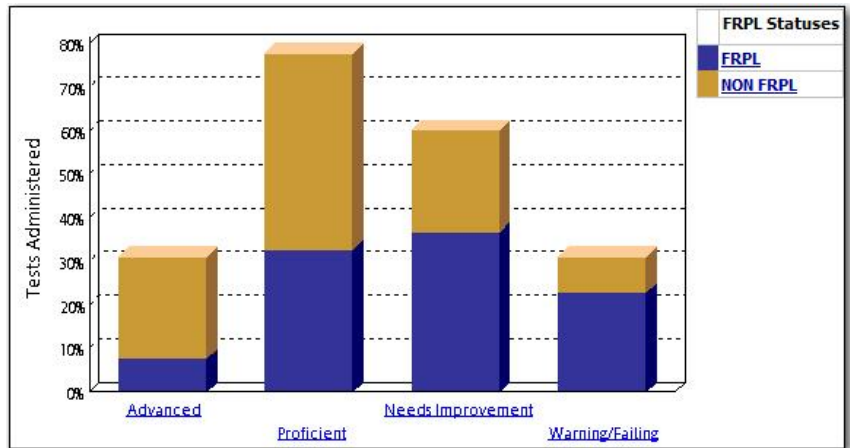
A clustered bar chart allows you to disaggregate data by a category or subgroup. For example, you would use a clustered bar to look at performance across years, between subgroups of students, e.g., gender, lunch status, or across grades. A clustered bar chart can answer questions such as:

- How did students who are eligible for free- or reduced-price lunch (FRPL) perform compared to students who are not?
- Which grade level achieved the highest percentage of correct items? The lowest?
- What was the performance of our students across subject areas or strands?
- What subject or curriculum areas show the greatest need for improvement?

## Stacked Bar Chart

A stacked bar chart allows you to see the trend across a given category (performance category in this example), and then within each category component. It allows you to see the relative distribution of results across another category, e.g., FRPL.

A stacked bar chart can be oriented on the vertical or horizontal axis.



Either form of stacked bar chart can help answer questions such as:

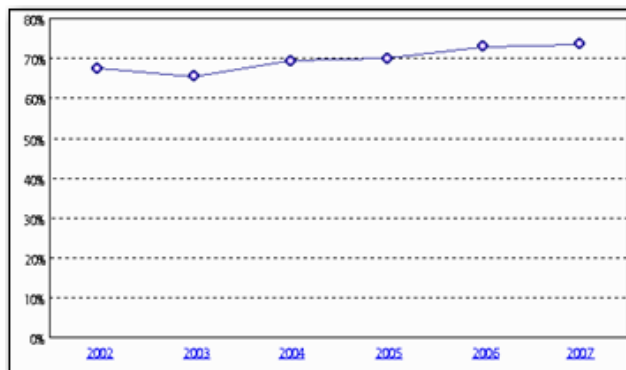
- Which performance category has the highest concentration of students receiving FRPL?
- Which grade level has the highest concentration of lower-performing students?

## Simple Line Chart

A simple line chart is similar to a simple bar chart, except the data are represented with a line rather than a bar. Some people like to use line charts when representing data across a time scale (as in the example). Some prefer to use line charts only when the data represent the same group of students over time (a cohort) because the line suggests movement.

A simple line chart can help answer questions such as:

- What are the CPI results for the fourth grade for the last six years?

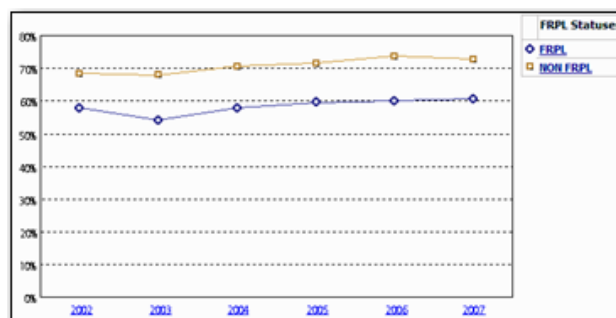


## Multiline Chart

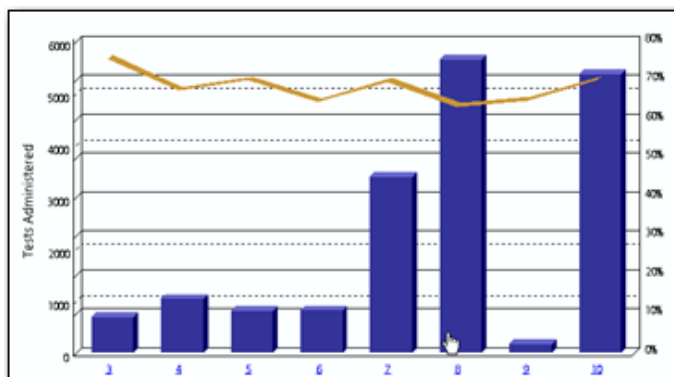
A multiline chart is similar to a clustered bar chart, except that the data are represented with lines rather than bars. As with the single line chart, some people like to use multiline charts when representing data across a time scale (as in the example).

A multiline chart can help answer questions like:

- Are we closing the achievement gap between two student groups over time?



## Correlation Chart



A correlation chart allows you to examine the relationship between two different measures using two different Y axes. The first measure appears as a bar chart whose scale is on the left Y axis. The second measure appears as a line chart whose scale is on the right Y axis.

A correlation chart allows you to answer questions such as:

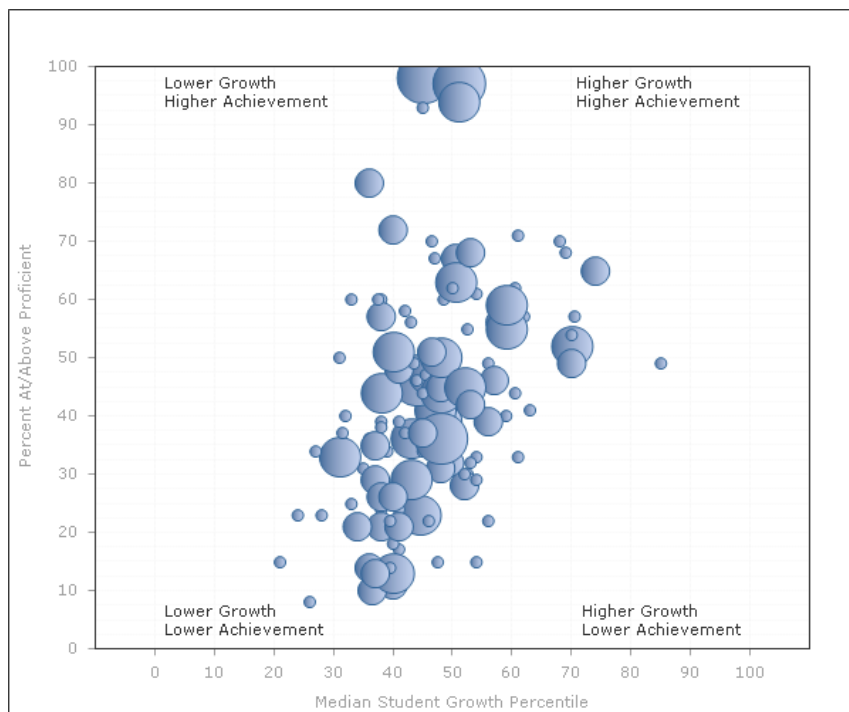
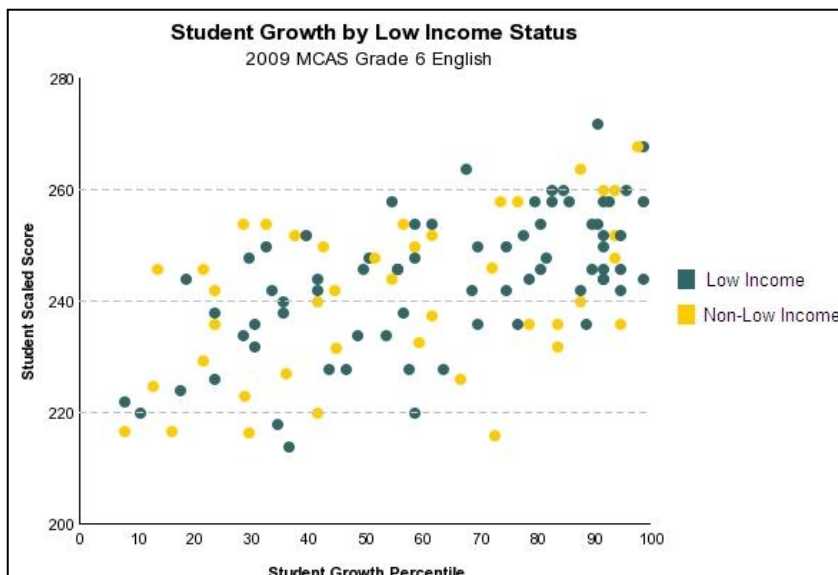
- What is the distribution of % Correct compared to the number of tests administered across grade levels?
- What is the relationship between the number of correct items and the number of possible items?

## Scatter Chart (or Bubble Chart)

A scatter chart allows you to look at the relationship between two different measures using the X and Y axes. The first measure is represented on the Y axis, and the second measure is represented on the X axis. In the sample graph to the right, each circle represents one student. In the sample graph below, each circle represents one school.

A scatter chart can help answer questions such as:

- What is the relationship between a student's scaled MCAS score and his or her student growth percentile?
- What is the correlation between local district assessments (or grades) and state assessment scores?



A third dimension of information can be added by using different colors or sizes to differentiate the data points. For example, different colors can distinguish membership in different groups, e.g., income status in the chart above. Different size points can show values, such as the age of the individual, years of service, or number of members, e.g., size of school in the chart below. Adding this third level of data can be valuable for answering questions such as:

- Is there a relationship between income status and performance?
- Is there a correlation between the size of a school and student proficiency and growth rates?

Scatter charts are usually accompanied by a table that summarizes the data and helps label each individual point. Because each point represents a person or group (such as a school), individuals can engage with the chart by locating themselves in the chart and asking:

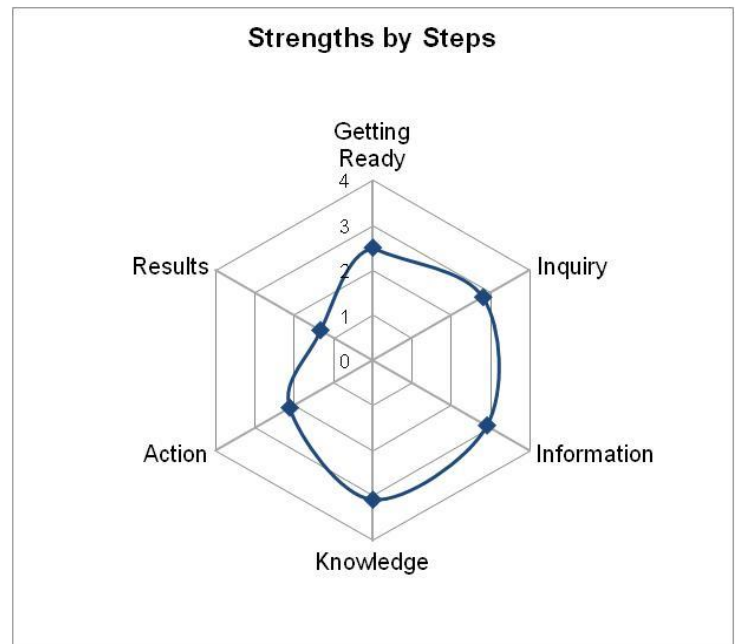
- Where do I (or my school, or my student) fall in relation to others?

## Radar Chart (or Spider Graph)

A radar chart, also known as a spider chart or a star chart because of its appearance, plots the values of several measures along a separate axis that starts in the center of the chart and ends on the outer ring. This makes it possible to compare data across measures. Data that are consistent across all of the measures will be displayed in a near circle. Data that are higher in some measures than others will be displayed in a more free form shape.

A radar chart can help answer a question such as:

- How does student performance on one strand of a test compare to several other strands?



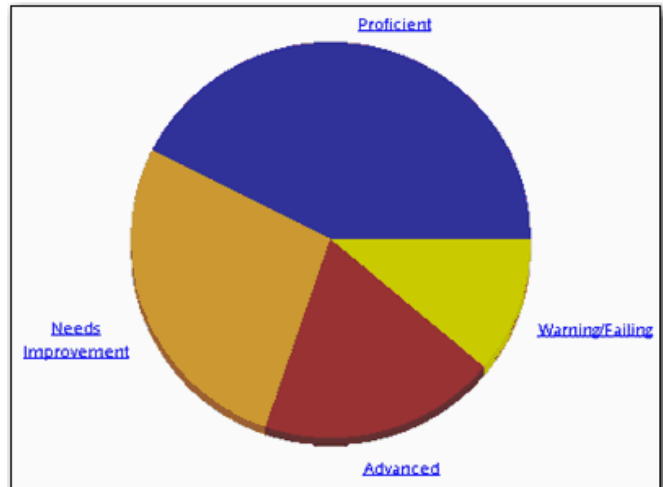
Consumers of data should be familiar with these last two types of data displays. However, in general there are more informative ways to display data. These types of displays are rarely, if ever, used in the Department's Education Data Warehouse.

### Pie Chart

A pie chart shows part-to-whole relationships. Pie charts show the relative distribution of performance for a specific population across performance categories, which sum to 100%.

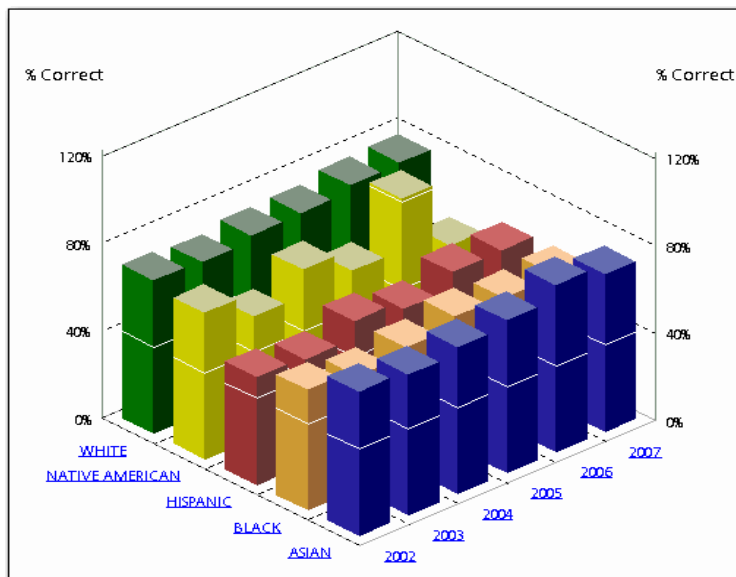
Pie charts can answer questions such as:

- What was the relative distribution of student scores across performance levels for a specific subgroup?
- Which subgroup had the highest proportion of students achieving Proficiency?



### 3D Bar Chart

A 3D bar chart is helpful when you want to visually represent a data set across multiple categories. It allows you to see the relationships and trends in a data set across three dimensions.



A 3D bar chart allows you to answer questions such as:

- Where are our greatest achievement gaps?
- What do year-to-year trends tell us about the learning needs of different subgroups of students?
- In which subject areas and grade levels do we have the greatest concentration of lower performing students?





## MORE DATA DISPLAY RESOURCES

2.4.4R

<b>Purpose</b>	To connect districts to additional resources on creating effective data displays.	<b>Related Documents</b> 2–Inquiry Module 2.4.1T: Building Data Displays Protocol 2.4.2R: Data Display Rubric 2.4.3R: Types of Data Displays
<b>Description</b>	This list can serve as a starting place for learning more about how to display data in meaningful ways.	
<b>Time</b>	N/A.	

	Website	Brief Description																				
1	<a href="http://nces.ed.gov/forum/publications.asp">http://nces.ed.gov/forum/publications.asp</a>	“The <b>National Forum on Education Statistics</b> develops free resources on a variety of issues that affect schools, school districts, and state education agencies.” A number of these documents are available for download at this website.																				
2	<a href="http://www.perceptualedge.com/files/GraphDesignIQ.html">http://www.perceptualedge.com/files/GraphDesignIQ.html</a>	<b>Perceptual Edge</b> , founded by Stephen Few, is a company “that was established to help organizations like yours learn to design simple information displays for effective analysis and communication.” This short IQ test can help you “determine how well you understand the principles of good table and graph design.”																				
3	<a href="http://www.perceptualedge.com/articles/ie/the_right_graph.pdf">http://www.perceptualedge.com/articles/ie/the_right_graph.pdf</a>	<b>Selecting the Right Graph for Your Message.</b> In this article, Stephen Few outlines some general principles that can be applied to a wide range of data displays. He presents seven quantitative message types, along with brief descriptions and examples.																				
4	<a href="http://nces.ed.gov/forum/pdf/NCES_table_design.pdf">http://nces.ed.gov/forum/pdf/NCES_table_design.pdf</a>	<p><b>Table and Graph Design for Enlightening Communication</b> is a very long but informative PowerPoint that was presented by Stephen Few at the National Forum on Education Statistics’ Summer 2009 Forum on Education Statistics. “Mr. Few offered three fundamental steps in the table and graph design process:</p> <ol style="list-style-type: none"> <li>1. Determine your <i>message</i>.</li> <li>2. Select the best <i>medium</i> to display your message.</li> <li>3. Design all components of the display to <i>show the data</i>.”</li> </ol> <p>The PowerPoint addresses several points:</p> <table border="1"> <thead> <tr> <th>Page</th> <th>Topic</th> </tr> </thead> <tbody> <tr> <td>1–12</td> <td>Context</td> </tr> <tr> <td>13–36</td> <td>Examples of Good and Bad Graphs</td> </tr> <tr> <td>37–41</td> <td>Grice’s Maxims: Quantity, Quality, Relevance, Manner</td> </tr> <tr> <td>42–48</td> <td>Fundamentals of Data Presentation</td> </tr> <tr> <td>49–67</td> <td>Transforming a Poor Graph</td> </tr> <tr> <td>68–79</td> <td>Parts of Displays</td> </tr> <tr> <td>80–92</td> <td>Design Principles</td> </tr> <tr> <td>93–102</td> <td>Table Design</td> </tr> <tr> <td>103–178</td> <td>Graph Design</td> </tr> </tbody> </table>	Page	Topic	1–12	Context	13–36	Examples of Good and Bad Graphs	37–41	Grice’s Maxims: Quantity, Quality, Relevance, Manner	42–48	Fundamentals of Data Presentation	49–67	Transforming a Poor Graph	68–79	Parts of Displays	80–92	Design Principles	93–102	Table Design	103–178	Graph Design
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93–102	Table Design																					
103–178	Graph Design																					





## DATA OVERVIEW BRAINSTORMING PROTOCOL 2.5.1T

<b>Purpose</b>	To provide a structure that enables all members of the target audience to become familiar with the focusing question, engage with relevant data, and help further the inquiry process.	<b>Related Documents</b> 2–Inquiry Module 2.5.2T: Focusing Question Investigation Template
<b>Description</b>	Use this protocol to facilitate the center of your data overview presentation. The brainstorming activity provides an opportunity for the target audience to collaboratively interact with the data displays associated with the focusing question. Through this collaborative inquiry, the audience will identify problems revealed by the data, develop hypotheses about the cause of the problem, craft clarifying questions to extend the inquiry process, and identify data needed to address those questions.	
<b>Time</b>	30–45 minutes.	

### Directions

Divide the target audience into groups of 4–5 people. Provide sticky note pads, chart paper, markers, and large copies of the data displays for each group. Provide a facilitator for each group.

1. Write the focusing question on the top of a sheet of chart paper. Check to make sure each person understands the question.
2. Post the large copy of the data display (or displays) for the group to view. These may have been created in *2.4.1T: Building Data Displays Protocol*.
3. Ask individuals to silently observe the data and record objective, factual observations about what the data say in the data display. Ensure that all have adequate time to process the information and ask clarifying questions if necessary.
4. Ask individuals to share their observations with the group. Record the observations on chart paper with the focusing question next to the display. Highlight observations that represent “problems” revealed by the data.
5. On a new sheet of chart paper, the group should write the title—Hypotheses about Possible Causes. They then brainstorm hypotheses about the causes of the “problem(s)” revealed by the data and record them on the chart paper.
6. As a group, then write the title—Clarifying Questions—at the top of a new sheet of chart paper.

7. Each group member should write one or more clarifying questions that stem from the “problem(s)” identified by the group on a sticky note (one question per note). Place the sticky notes on the Clarifying Questions chart paper.
8. As a group, review the questions and group similar questions together if possible. Develop a title for each group such as: Questions about Achievement; Questions about Relationships among Variables; etc.
9. Reach consensus on the clarifying questions that seem most appropriate to move the inquiry deeper. Record these questions on a new piece of chart paper. Leave room between questions on the chart paper, or put each question on a separate page.
10. Under each question, identify the evidence (data elements) that needs to be collected to address each of the clarifying questions. If possible, note where each piece of data can be found and how it can be collected.
11. Share the clarifying questions and additional data elements needed with the whole group. The District Data Team will record the questions and data elements on a sheet of chart paper for the whole group to see.
12. Use template *2.5.2T: Focusing Question Investigation Template* to record the key ideas for future reference.

Note: The District Data Team may choose to close the meeting at this point, or the Team may ask the group to help prioritize the clarifying questions that would be most useful and meaningful to extend the inquiry process. Either way, the Team should clarify next steps for how the inquiry process will move forward, and how the stakeholders in attendance at this data overview may be impacted.



# FOCUSING QUESTION INVESTIGATION TEMPLATE

2.5.2T

<b>Purpose</b>	To capture the results from the delivery of your data overview presentation.	<b>Related Documents</b> 2–Inquiry Module 2.5.1T: Data Overview Brainstorming Protocol
<b>Description</b>	Use this template as soon after the delivery of the data overview as possible to record the key clarifying questions and other ideas it generated. This template can then be shared with stakeholder groups in the district as work proceeds around data collection.	
<b>Time</b>	About 30 minutes.	

<b>Focusing Question</b>
<b>Hypothesized “Problem(s)” Discovered Through a Review of High-Level Data</b>  1.  2.  3.  4.
<b>Clarifying Questions Related to these “Problems”</b>  1.  2.  3.  4.

## Identifying Data Elements Needed:

Begin by referencing the notes from the data overview regarding the data needed to inform each of the clarifying questions in your inquiry. For each clarifying question, list below the data elements the district will need in order to address the question. For each data element, list which domain of data the element represents and whether it is currently collected and accessible to the Team. If the Team has completed *1.5.1T: Data Inventory Template*, it might want to use it for reference, as well as *1.5.2R: ESE Data Resources*. If the data needed to continue your inquiry is not currently being collected or is not readily accessible, indicate your plan to acquire the required data.

Clarifying Question #1: \_\_\_\_\_

Data Elements Needed to Address the Clarifying Question	Domain Demographics, Perceptions, Processes, or Student Outcomes	Ease of Access* 1–4, or N/A	Plan to Acquire Required Data Elements (If level of Access is 1–2 or N/A)
(add more rows as needed)			

\***Access** refers to the degree to which the data are available to District Data Team members. Rate Access on a scale of 1–4 (1 = hard to access; 4 = easily accessible) or N/A if the needed data element is not currently being collected.

Clarifying Question #2: \_\_\_\_\_

Data Elements Needed to Address the Clarifying Question	Domain Demographics, Perceptions, Processes, or Student Outcomes	Ease of Access* 1–4, or N/A	Plan to Acquire Required Data Elements (If level of Access is 1–2 or N/A)
(add more rows as needed)			

\***Access** refers to the degree to which the data are available to District Data Team members. Rate Access on a scale of 1–4 (1 = hard to access; 4 = easily accessible) or N/A if the needed data element is not currently being collected.

**Clarifying Question #3:** \_\_\_\_\_

Data Elements Needed to Address the Clarifying Question	Domain Demographics, Perceptions, Processes, or Student Outcomes	Ease of Access* 1–4, or N/A	Plan to Acquire Required Data Elements (If level of Access is 1–2 or N/A)
(add more rows as needed)			

\***Access** refers to the degree to which the data are available to District Data Team members. Rate Access on a scale of 1–4 (1 = hard to access; 4 = easily accessible) or N/A if the needed data element is not currently being collected.

**Clarifying Question #4:** \_\_\_\_\_

Data Elements Needed to Address the Clarifying Question	Domain Demographics, Perceptions, Processes, or Student Outcomes	Ease of Access* 1–4, or N/A	Plan to Acquire Required Data Elements (If level of Access is 1–2 or N/A)
(add more rows as needed)			

\***Access** refers to the degree to which the data are available to District Data Team members. Rate Access on a scale of 1–4 (1 = hard to access; 4 = easily accessible) or N/A if the needed data element is not currently being collected.