

Figure 4.15: Data Analysis Protocol

Step	Time to Completion
<p>Write the question(s) being analyzed at the top of a piece of chart paper. Check to make sure each person understands the question.</p>	<p>1–5 minutes</p>
<p>Distribute copies of the data in either graphical or numerical displays to each member of the team. Ask each person to silently observe the data by taking notes and jotting observations. By this point, the team may have three levels of data: high-level data that spurred the inquiry in the first place; data used in the data overview to generate clarifying questions; and even more specific data collected subsequently to address these clarifying questions. In some cases, the first two data sets may be fairly similar. Engaging with all data sets simultaneously can better poise the group to see patterns, trends, and outliers that had not previously been evident.</p>	<p>5 minutes</p>
<p>Observe: Ask team members to take turns (round-robin fashion) and report one of their observations. Observations should be facts or evidence that can be readily seen in the data and stated without interpretation. Instruct participants to use a sentence starter like one of the following to keep the observations factual: I see...I observe...I notice...</p> <p>After participants have shared their initial observations, probe for deeper analysis by asking a combination of the following questions:</p> <ul style="list-style-type: none"> • How do data sets (or populations) compare to each other? (Such as comparing one grade to another, or school vs. district vs. state) • What are the commonalities among a given data set (or population)? (Such as among students who are scoring below standard, or those who are achieving) • What patterns or similarities are evident across different data sets? (Such as comparing local formative assessment data with state assessments, or comparing student achievement with teacher attendance) • What inconsistencies or discrepancies (if any) are evident? • What is not represented in the data? • What questions do the data raise? <p>Capture the observations in list form on the chart paper as quickly as possible and without comment. Capture questions on a separate sheet. Continue until all team members have reported all of their observations. During this step, it is acceptable for team members to make observations based on those made by others in the group. Allow the process to proceed as long as logical and factual 20 observations can be made. It is often helpful to make a very distinct transition from the observation stage to the interpretation stage, clarifying when the group can begin to allow statements that may not be factually based.</p>	<p>15 minutes</p>
<p>Interpret: Ask each team member to review the entire list of observations. Working together, code (or group) the observations into categories. To facilitate this process, ask questions such as:</p> <ul style="list-style-type: none"> • What assumptions might be underneath what we are noticing in the data? • What clues help explain why a certain population is meeting or missing targets? • What areas in the data stand out as needing further explanation? • What patterns or themes do we see in our observations? • Which of these observations are most relevant and important to our inquiry? • Based on our observations, what do we know now? 	<p>20 minutes</p>
<p>Extend: On a new piece of chart paper, write —New Questions and Conclusions. Work as a group to identify new questions that this analysis has raised and any possible conclusions that have been identified. The questions may serve as the basis for another round of analysis, so it may be helpful to conclude by prioritizing them. Any conclusions will become the basis for subsequent action.</p>	<p>10 minutes</p>

Source: Massachusetts Department of Elementary and Secondary Education⁹²

⁹²Adapted from: Ibid., pp. 201–202.