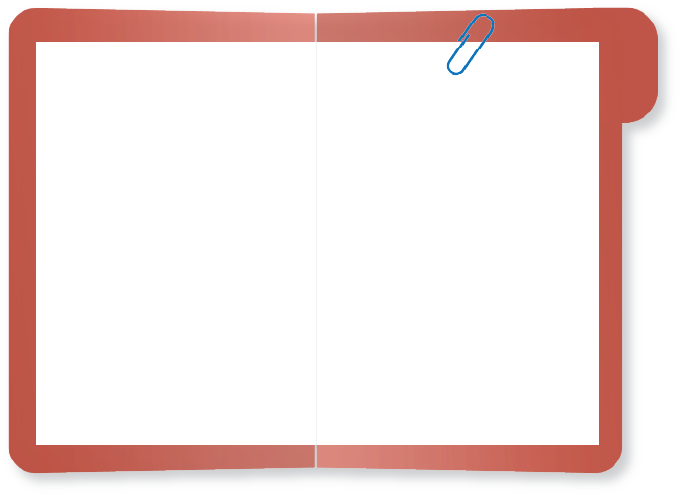
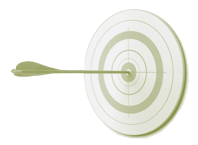
|  |
| --- |
| 4.3B Interrelationship Protocol |



*To discover the relationship between possible causes and the relative influence of one cause on another.*

Data teams will prioritize that causes and understand which causes, should they be addressed, will have the greatest impact.

About 30 minutes



## Directions:

### Part 1: Reviewing an Example

1. Review the example of a completed *Interrelationship Chart* on page 30 of this tool to get an idea of what your team will be producing.

### Part 2: Identifying Relationships

1. If you have not already done so, write each of the potential cause statements on a separate sticky note.
2. Place 4 to 6 sticky notes in a circle on a piece of chart paper. Number them in sequential order.
3. Consider two of the potential causes. As a team determine if there is a relationship between these two causes. If there is a relationship, draw a line from cause 1 to cause 2.
4. Once a relationship has been established between two causes, determine which cause exerts the most influence on the other. Place an arrowhead on the line going away from the cause that exerts the most influence. A line should not have two arrowheads, as the team must reach consensus on the cause with the most influence.
5. Repeat this process looking at the relationship between the first cause and each of the other causes.
6. After looking at the relationships between the first cause and each of the other potential causes, repeat the process for the second cause and each of the others, and so on until the influence of each cause on each of the other causes has been established.

### Part 3: Identifying Control

1. You should now have a diagram on the chart paper with multiple lines running between causes and arrowheads on the lines indicating which causes have the greatest influence over their related causes. Note that some causes may not be related to any of the other causes. No line will be connected to these causes.
2. Count the number of arrowheads going away from each of the causes and record the number next to the cause. Rank order the causes based on these numbers (e.g., most arrowheads away to least arrowheads away).
3. The cause with the most arrowheads going away from it has the most effect on all the others. Thus, when addressed, this cause will have the greatest impact on the identified problem.

## Interrelationship Chart Example

**Cause 1**

**Cause 6**

**Cause 2**

**Cause 3**

**Cause 4**

**Cause 5**

2 Arrows

0 Arrows

1 Arrow

1 Arrow

0 Arrows

3 Arrows

In this example[[1]](#footnote-1), the causes can be rank ordered as follows based on the number of arrowheads going away.

|  |
| --- |
| Cause 2 |
| 3 arrowheads |
| Cause1 |
| 2 arrowheads |
| Cause4 |
| 1 arrowhead |
| Cause5 |
| 1 arrowhead |
| Cause3 |
| 0 arrowheads |
| Cause 6 |
| 0 arrowheads |

Based on this rank ordering, Cause 2 has the greatest impact on the other causes followed by Cause 1. Causes 4 and 5 have a smaller impact on the other causes and Causes 3 and 6 have no perceived impact. This analysis suggests that Cause 2 and Cause 1, if appropriately addressed, will have the largest impact on the problem.

1. Adapted from Quality in Education, Inc. [↑](#footnote-ref-1)