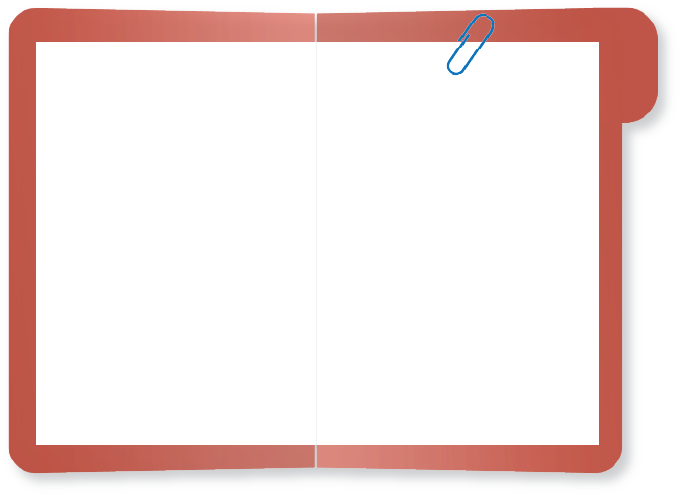
|  |
| --- |
| **4.2C – Fishbone Analysis Protocol** |

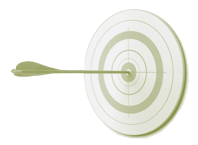
**Directions:**



*To identify causes of problems.*

The fishbone diagram will enable the data team members to suggest possible causes of the problem under investigation and then reach consensus on a the most likely cause.

About 1 hour



**Part 1: Reviewing an Example**

1. Review the example of a *Fishbone Diagram Template* (page 25) so that each team member understands the desired outcome.

**Part 2: Creating the Display**

1. Create a blank copy of the diagram on chart paper.

Write the problem under investigation in the box at the “head” of the fish on the *Fishbone Diagram Template* (page 26).

Identify major categories that are logically associated with the problem and write them in the boxes in the diagram. The diagram has four “ribs” and boxes, but more or fewer boxes can be used depending upon the selected categories. The following categories are often used: students, families, processes, curriculum, instruction, teachers. Remember to look for causes that are under the district’s/school’s control.

For each category, brainstorm possible causes of the problem related to that category. Record the possible causes next to the appropriate “rib” in the diagram. Repeat this process for each of the categories.

**Note**: During the brainstorming section of this protocol, participants may come up with possible causes that do not fit easily into one of the previously identified categories. This can indicate a need to identify a new category or broaden an existing category. Do not discard an idea solely because it does not fit into a previously identified category. If necessary, add the new category and move on. The purpose of the major categories is to provide a structure to guide the brainstorming. These categories should be used to inspire, rather than restrict, participants’ thinking.

**Part 3: Examining the Display**

1. Study the display that you have created. Are all of the reasons that have been identified under the control of the district? If not, place an “X” next to those not under district control. As an alternative to this step, the team may want to consult tool **4.3A Determining Significance and Control** that is designed to help the team determine which potential causes are most significant and most influenced by the district.

As a data team, analyze each possible cause to determine whether it is a likely cause by asking:

* + Would the problem have occurred if this cause had not been present?
  + Would the problem reoccur if the cause was corrected?

If the answer to both of these questions is no, you have found a likely cause.

Place a checkmark next to each idea that is **not** a likely cause and circle each idea that is a likely cause of the problem.

The next step is to use **4.4 Identifying, Collecting, and Displaying Data to Test the Potential Cause** and **4.5 Testing the Cause** to identify, collect, display, and analyze data to test the likely cause(s).

**Fishbone Diagram Template Example**

**Problem:**

***Carter Tech has a large percentage of students who leave school before entering high school.***

**District/School Processes**

**Curriculum**

**Instruction**

**Students**

At-risk students are not identified in elementary school

Retention in the primary and intermediate grades

No real world context

Instruction is not differentiated to meet needs of diverse student body

No career education in grades 7 and 8 that supports the need for high school completion

Focus on state standards alone

Lack of engagement with school

Overage for grade

Member of a special population

No focus on relevant outcomes

No focus on relevant outcomes

Frustrated with lack of academic success

No targeted counseling for students who have been retained

**Fishbone Diagram Template**

**Problem:**