Problem-Solving Cycle Activity

Purpose	To get all staff involved in thinking through a problem before jumping to solutions. This activity can also result in a comprehensive data analysis design. By starting with hunches and hypotheses, all staff can get their voices heard. When voices are expressed, there is a better chance of all staff using the information later. (The first three steps in the problem-solving cycle are *key* and the focus of this activity.)
Target Audience	All staff.
Time	One hour for the first three steps of the cycle.
Materials	Chart pad paper, masking tape/tacks, and markers. Handouts for each participant: hunches and hypotheses, and questions and data worksheets.
Process Protocol	Make sure each person has a copy of the handout and that you are prepared to help small groups identify their problem(s) in objective terms. You will need about one hour to get through the first three steps, if getting the data analysis design is your focus. Analyzing the data will take another two hours—probably at a different time. Developing the action plan will take days with small groups going back to the larger group (see *Action Planning Activity*). Implementing the action plan is the ongoing work of the learning organization, as is evaluating the implementation of the action plan, and improving the processes.

1. Establish the size of the group(s) that will be going through this activity. Small groups are beneficial in allowing everyone to participate, even if groups are working on the same problem.

2. Start out with guidelines or ground rules of acceptable and unacceptable behavior, and how they will be monitored. Make sure it is a "safe" room for threat-free, honest, open discussion.

3. Have each group clearly identify a problem to be solved, stated in objective terms. For example, *Not all students are reading at grade level by grade three*, as opposed to, *40 percent of our students are not capable of reading by grade three*. The problem should let you find the data.

4. Brainstorm 20 hunches and hypotheses about why the problem exists (takes about ten minutes). This can spell out what teachers are thinking about the problem currently. You could also use a "cause and effect diagram," shown on pages 6-7 (example and blank diagram).
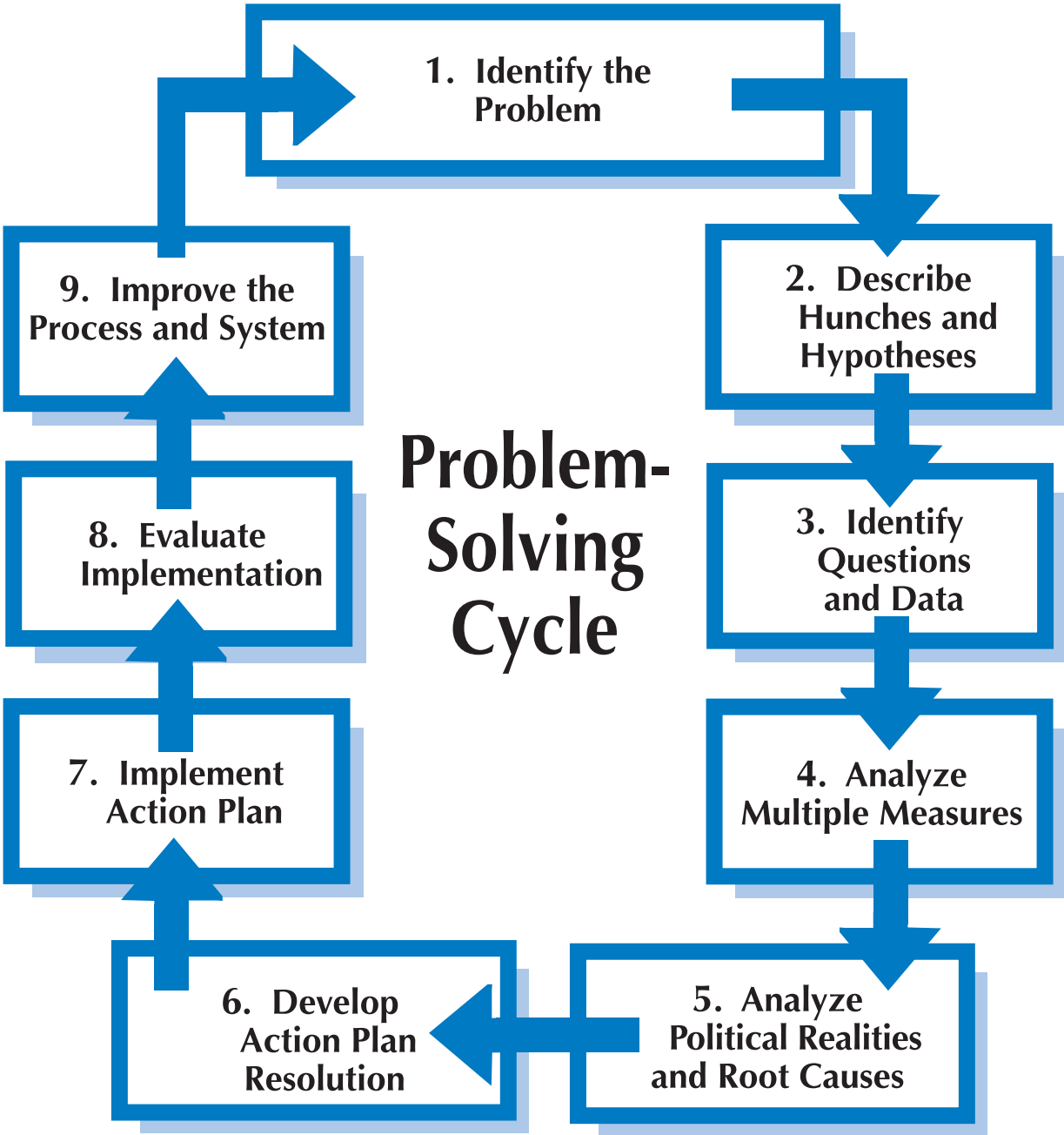
Problem-Solving Cycle Activity

5. Considering the problem, identify questions that need to be answered to find out more about the problem (e.g., *How many students have not been reading on grade level by grade three for the past three years?*) Get at least eight questions.

6. For each question, determine the data that need to be gathered to answer the question. This list becomes the data analysis. Eye-balling this list, one can see that for the most part, the data will fall into the four categories of demographics, student learning, perceptions, and school processes. (At this point, you should have uncovered new ways of looking at the problem. This might be as far as you go on this day.)

7. Have the groups share their problem-solving cycle, letting others add to it, if appropriate.

8. Gather and analyze the data. This is often where the schools have the most trouble because they do not have the data readily available. Help them get the data.

9. Continue with the problem-solving cycle through action planning and implementation.

Comments to the Facilitator

This is a very action-packed time period. If you keep within the time estimates, the task will go fast and be productive. If teams are working on different "problems," you might want to share.

Some staffs will want to use this activity to evaluate programs and processes. Some may want to use this process before a visioning process. The problem-solving cycle will work wherever it is needed.

Problem-Solving Cycle Activity

Steps in Solving a Problem

Problem-Solving Cycle

1. Identify the Problem

2. Describe Hunches and Hypotheses

3. Identify Questions and Data

4. Analyze Multiple Measures

5. Analyze Political Realities and Root Causes

6. Develop Action Plan Resolution

7. Implement Action Plan

8. Evaluate Implementation

9. Improve the Process and System

Problem-Solving Cycle Activity

Identify the problem.

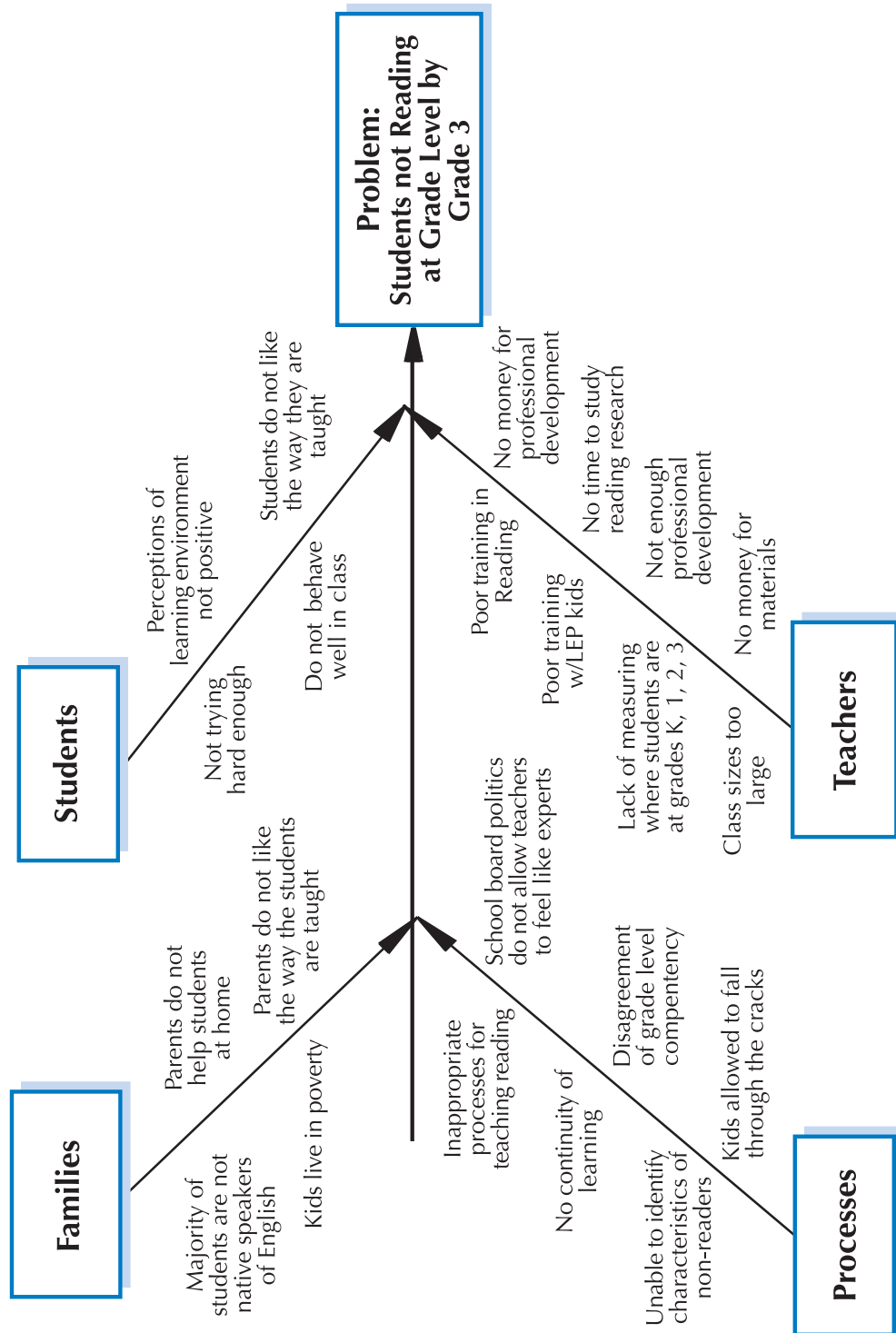| List hunches and hypotheses about why the problem exists. |
|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| 6. |
| 7. |
| 8. |
| 9. |
| 10. |
| 11. |
| 12. |
| 13. |
| 14. |
| 15. |
| 16. |
| 17. |
| 18. |
| 19. |
| 20. |

Problem-Solving Cycle Activity

What questions do we need to answer to know more about the problem, and what data do we need to gather?

Questions	Data Needed

Problem-Solving Cycle Activity

Cause and Effect Diagram Built on Teacher Brainstorming

Problem: Students not Reading at Grade Level by Grade 3

Students

- Perceptions of learning environment not positive
- Students do not like the way they are taught
- Not trying hard enough
- Do not behave well in class

Families

- Parents do not help students at home
- Parents do not like the way the students are taught
- Majority of students are not native speakers of English
- Kids live in poverty

Teachers

- No money for professional development
- No time to study reading research
- Not enough professional development
- No money for materials
- Poor training in Reading
- Poor training w/LEP kids
- Lack of measuring where students are at grades K, 1, 2, 3
- Class sizes too large

Processes

- School board politics do not allow teachers to feel like experts
- Inappropriate processes for teaching reading
- No continuity of learning
- Disagreement of grade level compentency
- Kids allowed to fall through the cracks
- Unable to identify characteristics of non-readers

Problem-Solving Cycle Activity

Problem:

Title: