Development Suggestions for Problem Solving

Suggested Readings

Title	Author/Publisher	Learning Mode
The Opportunity in Every Problem	Taylor, Scott L. / 2001 / Good Samaritan Publishing	Book
The Thinker's Toolkit: Fourteen Powerful Techniques for Problem Solving	Jones, Morgan D. / 1998 / Times Books	Book

Activities

1. Use a systematic problem-solving process. The process shown below consists of four steps and the critical activities that occur within each step.

Step 1:
Identify and define the problem

Step 2:
Analyze the problem to
determine the causes

Step 3:
Analyze the causes and select
a solution

Step 4:
Plan to implement the solution
and evaluate outcomes

Generate ideas or data

Prioritize the items that seem
important

Analyze the top priority items

Decide on an item to act on
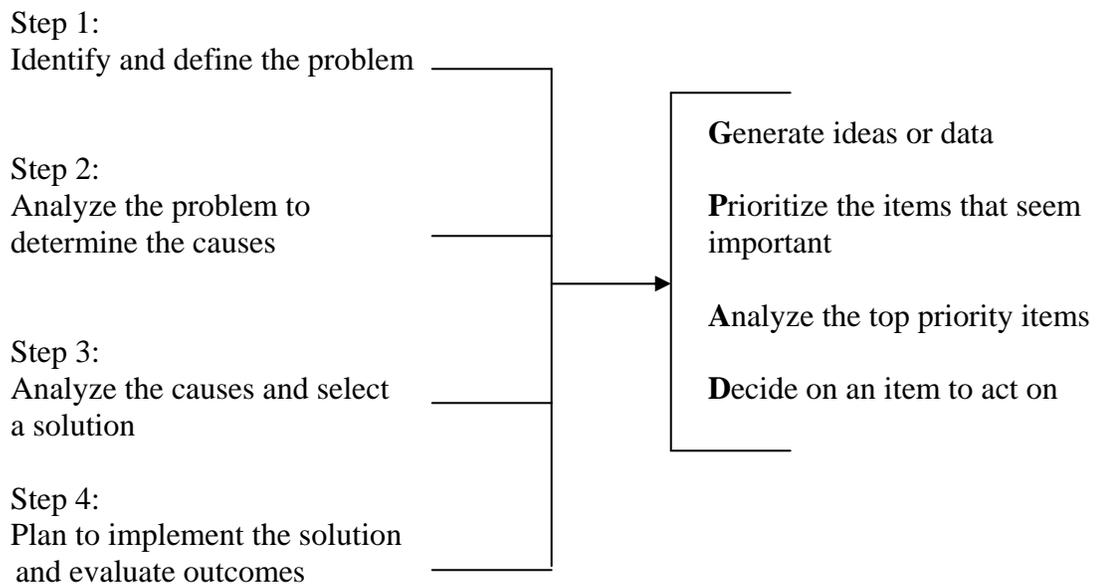
Development Suggestions for Problem Solving, continued

2. Use an Idea Board to help define the problem. Use the following steps to construct and use an Idea Board:

   a. Draw four vertical columns on a chart.
   b. Write the categories, "People," "Resources," "Equipment," and "Procedures," at the top of the columns.
   c. For each category, generate potential causes by asking, "Why did the problem happen?" Record the answer in the related column.
   d. Wherever possible, continue to ask, "Why did that happen?" to move to the next level of detail.
   e. Don't give up. The answers are in the details. Look for duplication of potential causes across the categories, as these are most likely the greatest contributors to the problem.

3. Consider the technique of multi-voting to help prioritize a list of generated items.

   Use the following process:

   a. Begin with the list of items on a chart or whiteboard. Make sure the group has clarified each item and eliminated duplicates.
   b. Decide on the number of points or votes to be allocated to one or more of the ideas. For example, if the list of items is very long, you might want to use a 10-point system. If the list is shorter, a 5-point system may be sufficient.
   c. Have each person in the group allocate the points to one or more of the ideas. A person can give all of his or her points to a single item or split them up among several items.
   d. Have each person call out his or her vote (points) and post the number of votes on the chart next to the related item(s).
   e. Tally the votes (points) for each idea.
   f. Circle the top items with the most votes.

   Additional methods of multi-voting:

   Avery® Dots. Use colored Avery Dots (circular, self-adhesive stickers that can be purchased in most office supply stores) with each dot representing a point or vote. For example, if you have decided on a 5-point allocation, each person would receive five Avery Dots. Each person places his or her chosen number of dots next to the item(s) on the chart. Continue with Step e.

   N/3. Take the total number of items on the chart and divide by three. Each person has that number of choices to use in selecting the ideas he or she thinks are most important. This process can be repeated until the list is reduced to an appropriate number of items.

Development Suggestions for Problem Solving, continued

4. Use a tool called a Forcefield Analysis to explore the consequences of a possible solution or a decision or factors that support or present obstacles to implementation of the solution or decision. Follow these steps:

   a. List the solution or decision at the top of a chart page or whiteboard.
   b. Draw a vertical line down the center of the chart to create two columns.
   c. Write "Negative Forces" at the top of the left column and "Positive Forces" at the top of the right column. You can use other terms such as advantages and disadvantages, use pros and cons, or use the signs for plus and minus.
   d. Brainstorm the negatives and positives. Record ideas on the chart as they are suggested.
   e. Eliminate redundancies and offset as many negatives as possible with positives.
   f. Prepare an action plan to eliminate or reduce the negatives. It is more effective to do this than to strengthen the positives.

Tips

1. Before attempting to reach a decision, make sure everyone involved agrees on the problem definition.

2. Attack problems, not people.

3. Keep a record of problems that arise to identify recurrent ones.

4. Use interviews, observations, and surveys to pinpoint problems.

5. Consider your problem-solving skills and list three skills upon which you would like to improve. Ask your superior or peers for suggestions to help you improve in these areas.

6. Establish an informal network of colleagues who can help each other when problems arise.

7. Before you try to solve a problem, identify the data you will need to reach a solution and how that data can best be obtained.

8. To avoid "groupthink," ask members of your team to research and argue the alternative viewpoint.

9. Avoid jumping to conclusions by defining a problem in terms of solutions. This may cause you to overlook other, possibly better, solutions.

Development Suggestions for Problem Solving, *continued*

10. Avoid the common pitfalls that hinder effective problem solving such as:

- Jumping to conclusions
- Failing to collect important data
- Treating the symptom rather than the cause
- Working on problems that are too large, too general, or poorly defined
- Failing to develop an adequate rationale for a solution
- Failing to plan adequately for implementation and evaluation of the solution.