Four Tips for "Beefing Up" Your Problem-Solving Tool Box – Part Four

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This is part four of a four-part guest post contributed by Fred Nickols, Managing Partner of Distance Consulting LLC. All four parts focus on improving your problem solving efforts.

Tip #4: Draw pictures of the structure of the problem

A picture or model of the elements and relationships in a problem situation will help you to more quickly and more completely grasp the situation and figure out what to do about it.

Consider, for example, the diagram shown in Figure 4. It depicts the structure of a general-purpose work system. The elements of this system include inputs, a processor, outputs, a controller, and two control loops. On the front end of this system is a task initiation loop and on the back end is an evaluation and termination loop (the dotted lines). The relationships among these elements are such that inputs to the work system interact with the processor. The interactions between inputs and processor, which typically consist of prefigured routines, are referred to as "processes." These processes produce the work system's outputs. All this occurs under the watchful eye of the controller.
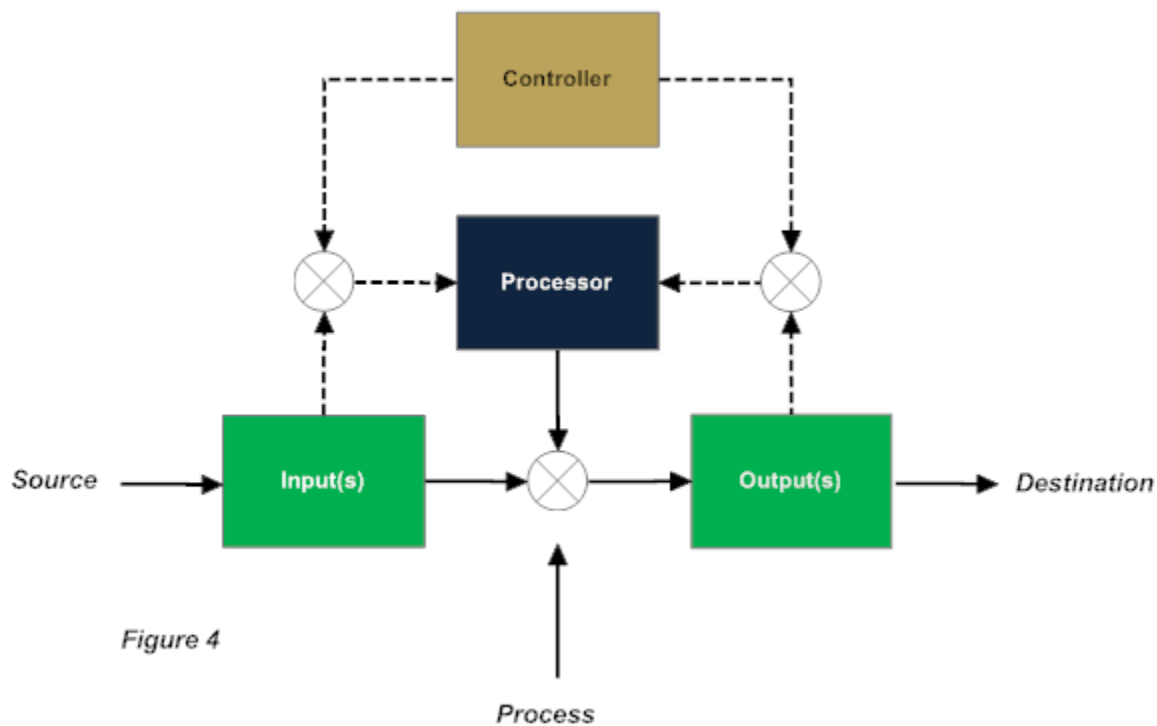

Figure 4

If the outputs of the work system are faulty, several possibilities are suggested by the structure of the diagram in Figure 4. The inputs might be faulty. The processor or the controller might be malfunctioning. Perhaps one or the other or both of the control loops is open and no information is getting through. Whatever the contributing factors, the diagram provides guidance regarding places to look for what might be causing the problem and for what might have to be changed in order to solve it.

The use of diagrams or schematics as an aid to problem solving is not new. Technicians have been using schematics as troubleshooting aids for years. Computer programmers and systems analysts are familiar with, if not dependent on, flowcharts and data structure models. Industrial engineers have relied on process flow diagrams ever since the days of Frederick Winslow Taylor. Diagrams and schematics should be found in your problem solving toolbox too.

Most important, get in the habit of visualizing the problems you tackle.

More Information

This is an edited excerpt from a longer piece titled "Ten Tips for Beefing Up Your Problem Solving Tool Box" that appears on Fred Nickols' articles website (www.nickols.us). Many other articles dealing with problem solving and additional workplace-related subjects can be found there as well. Fred can be contacted by e-mail at fred@nickols.us.