

## Triad activity

One of the most effective ways to develop skill is to use a triad activity in which each person, in turn, plays the role of expert system, trouble shooter and observer. In a 2 hour period each can play each role once. Here are the three roles.

### a. the Expert System

The *expert system* poses a trouble shooting Case and then provides responses "from the system" to any request made by the trouble shooter.

In preparation for this role, 1) select a case; read it over carefully, 2) then track through **all** of the data requests given at the end of the case; 3) locate the answers and then read Appendix E for a debrief and answer. Understand the process extremely well. You might wish to complete a Trouble Shooter's Worksheet for yourself. Think about how "the fault" will affect all of the process variables. Try to anticipate the kinds of **actions** that the *Trouble Shooter* might take. What would the fault do to the system under those conditions? Give the results of experiments. Do not give explanations. Give correct information but do not be generous. If, for example, the fault occurs periodically, and you are asked to give the lab analysis for one sample taken, then assume Murphy's law applies and give them the result when the system was operating normally. Insist that they write out all requests; write down the results opposite. Do **not** talk. . . . just acknowledge that they are working on it by saying "Ahemmm, mmmmm,"

Insist on their instructions or requests be written precisely. If they write "Inspect the instrument" then respond "It's OK". If they ask what you did, then say "I went out and looked at it." Be tough. Do not offer more information than they asked for.

### b. the Trouble Shooter

You have a challenging role to play.

- you are to talk aloud so that the *Observer* can track what you are doing. Think about the process you will be using: are you searching for change? or for the basics?; are you clarifying the situation or testing an idea? You may feel frustrated because the *Expert System* is going to supply **written** responses to your requests for tasks to be done; the *Expert System* will not discuss things with you. He/she may say "Hmmm" or "mmmmmm" to you occasionally so that you do not feel as though you are talking to a wall, but the *Expert System* is there to provide instant system **written** response to your requests.

-you are to display all the good problem solving skills we have developed. Do this by verbally monitoring your progress, being active with pencil and paper to keep track of the route you are following. Indeed, you might wish to prepare a Trouble Shooter's Worksheet. Recall, from Chapters 2 (and Chapters 5 and 6), the performance characteristics of successful trouble shooters. Try to display those performance characteristics.

-you are to write out your requests for information from the *Expert System*. These should be written out precisely and unambiguously.

### c. Observer for Trouble Shooting.

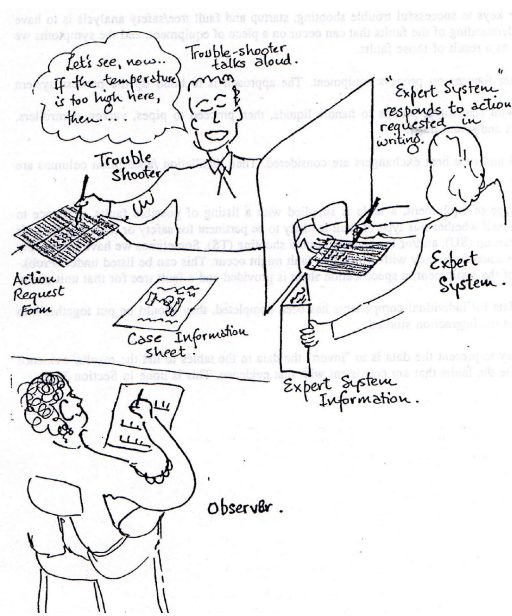
Your worksheet is the Feedback form. As the *Trouble Shooter* is tackling the problem, your task is to assess how well the problem solving components are handled. This is challenging because the skills are difficult to identify-- let alone observe and assess. To some extent your role is similar to the listener role in TAPPS, used in ChE 2G3. The Feedback form is made to help you look at the mental process used by the *trouble shooter*. Try to focus more on the "actions taken", and on the "talk-aloud description of the thought process". Look at the organizational pattern used; listen for the monitoring of the process. Consider, "Does he/she confuse activities unknowingly?"

Let the *Expert System* focus on "how well the trouble shooter wrote out the questions and tasks to be done".

### Activity 8-1

Prepare for the activity ahead of time with each person in the triad selecting a Case and preparing for the role of *Expert System*. As *expert system*, make a copy of the Case to give to the *trouble shooter*. When it's convenient, the triad members meet for at least 2 hours.

1) The person with surname first in the alphabet starts as *trouble shooter*. Next in the alphabet, as *expert system* and last in the alphabet as *observer*. Seat yourselves approximately as illustrated in Figure 8-1, although the barrier between the *trouble shooter* and *expert system* is imaginary.



2) Refresh your memory as to how to play each role.

3) Set the timer for 20 minutes, start with the *expert system* handing the Case to the *trouble shooter*. The *trouble shooter* reads the case aloud and then, by talking aloud proceeds to “solve the case”. He/she gathers information by writing out **actions** to be taken. These actions should be written one at a time with a written response being given by the *expert system* to each task. The expert system responds in writing and so the role playing-activities continue. Focus on the process and not on rushing to trying to solve the problem in the available time. In the time available, the *trouble shooter* may only complete the Trouble Shooter’s worksheet and never even ask a question of the *expert system*. That’s OK.

4) When the 20 minutes has elapsed, the *expert system* reveals the root cause and possible solution. *This is not a discussion*. This is simply the *expert system* sharing the root cause about the case. Time = 2min.

5) The *observer* completes the feedback form and gently shares his/her feedback with the *trouble shooter* about what he/she observed. 4 minutes.

Figure 8-1: The triad

6) The *trouble shooter* collects the evidence about the process: the case problem statement, any worksheets, perhaps the Trouble Shooter’s Worksheet, and the action request form with responses that were written between the *trouble shooter* and the *expert system*.

5) All three people write their reflections of what they learned from the activity. 5 minutes.

6) Discuss this briefly with the people in your triad. 3 minutes.

7) Rotate roles and repeat until everyone has had a chance to play all three roles and gather evidence about how they played the role of *trouble shooter*.