MPS 8 Define-the-stated-problem Objectives © copyright, Donald R. Woods, 1998

Define-the-stated-problem is the second stage of the process of Defining the real problem. Here we classify the given information. We resist the temptation to try to define the real problem. We classify.

Depending on your personal preference, you might draw a diagram, create symbols and identify the system.

Skill development:

1. Application of classification skill, from MPS 6, to the given information in a problem.
2. More practice on applying the strategy, introduced in MPS 4, to solve problems.
3. Further nurture an attitude of being patient with the problem solving process; not jumping into the problem solving process.
4. Skill with the second of three stages in Defining a problem.
5. Further application of skill in criteria and goals that was developed in MPS 3.
6. On the one hand, you will develop a better understanding of your personal style; on the other hand, for much of the task, everyone will do it the same.
7. Learn more about target skills for problem solving.
8. Through the everybody-share technique, build more skill in giving and receiving feedback.
9. Through the everybody-share technique, acquire skill in extracting common ideas.

Pretest:

Awareness: how aware are you of what you do when you use this ability? Rate with an “x”

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Skill: how skilled are you in doing this activity? Rate with an “x”

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Comments:

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Learning objectives

MPS 8 Define-the-stated-problem

1.1 given a term listed under "concepts introduced", you should be able to give a word definition, list pertinent characteristics and cite an example.

4.1 given a problem statement, you will be able to identify the words that describe the goal, the unknown to be solved for or the decision to be made. These will be 100% correct as judged by peers or the tutor.

4.2 given a problem statement and the task of identifying the goal, you will not include more than 20% new words or redefined terms. For example, if the
statement said *calculate* then you will not replace it with the word *determine* at this time. You may later; but not now in define-the-stated-problem stage. These will be 80% correct as judged by peers or the tutor.

4.3 given a problem statement and the task of identifying the goal, you will delete at least 80% of knowns, criteria and constraints. These will be 80% correct as judged by peers or the tutor.

4.4 given a problem statement, you will be able to identify or list the given information. These will be 80% correct as judged by peers or the tutor.

4.5 given a problem statement, you will be able to identify or list the stated constraints. These will be 80% correct as judged by peers or the tutor.

4.6 given a problem statement, you will be able to identify or list the inferred constraints. These will be 80% correct as judged by peers or the tutor.

4.7 given a problem statement, you will be able to identify or list the stated criteria. These will be 80% correct as judged by peers or the tutor.

4.8 given a problem statement, you will be able to identify or list the inferred criteria. These will be 80% correct as judged by peers or the tutor.

6.1 given an everybody-share technique, you will be able to assess the degree to which a peer’s efforts help or hinder your approach to solving problems. You will elaborate to provide evidence for your assessment. You will refrain from assessing the effort as good or bad.

**Concepts introduced** Goal, criteria, constraint, inferred criteria, inferred constraint,

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MPS 8: Define-the-stated problem Example
assessment tasks:

1. For the problem given in Table 1,
   a) what is the goal?
   b) what are the stated criteria?
   c) what are the stated constraints?
   d) what are the inferred criteria?
   e) what are the inferred criteria?
   f) what are the givens?