Organized Lists

Appropriate Student Level: Any Level
Suggested Class Size: 3 – 100+
Ease of Use Rating: Easy – Moderate

Activity Description:

Organized lists are similar to sequencing of concepts but a list can be used with just one concept. The instructor may present one concept and the students can break it into its individual parts and sequence the parts in a way that is logical. This is commonly done in writing. "In the attempt to produce an organized list, students will encounter frequent and repeated patterns." (Muckerheide et al., 1999)

Diagramming sentences is a good example of an organized list. Students break a sentence into the parts. The parts can simply be the subject and predicate or be more complex to include each word and every part of speech. The list can help students see errors clearly and/or ways to improve the sentence.

Organized lists cannot be used in isolation. They must be part of a full 'problem-solving' curriculum that provides students with tools and strategies that can optimize understanding.

"I previously taught problem solving as an isolated lesson, often giving a lecture about problem-solving strategies. I described a list of strategies that students could use to solve problems: draw a picture, make an organized list, guess and check, and so on. These strategies represented the problem solving that we would practice, but they were no more meaningful to my students than memorizing steps to perform algebraic manipulations.

I eventually developed a project that enables my students to experience these strategies. They construct their own understandings of the problem-solving strategies instead of merely writing them in their notebooks. My students begin to research the problem solving process itself, uncovering and defining strategies that they can subsequently use to solve problems, as well as exploring the impact that attitude has on problem solving." (Miller, 2000)

References:
Cynthia, Barb (1997) "Problem solving does not have to be a problem", The Mathematics Teacher, 90(7); p. 536
Lorch, Robert Frederick (1995) "Effects of organizational signals on text-processing strategies", Journal of Educational Psychology, 87, p. 537
Miller, Catherine M. (2000) "Student-researched problem-solving strategies", The Mathematics Teacher, 93(2); p. 136
Muckerheide, Paul; Mogill, Helen; Mogill, & A Timothy; (1999) "In search of a fair game", Mathematics and Computer Education, 33(2)