



C³: Comparing, Contrasting, Connecting.... the NCTM Principles/Process Standards and Process Education

Recorder Notes *(submitted by Steve Beyerlein)*

NCTM (National Council for Training in Mathematics) has developed a comprehensive set of process standards that can infuse authentic problem solving in multiple disciplines. There is a big difference between solving homework exercises and immersing in a real problem. This can generate motivation and collaboration that is difficult to produce in highly-scripted drill & practice sessions. The NCTM process standards include:

PROBLEM SOLVING => where the solution is not known in advance, where recent knowledge needs to be interpreted/applied, where a positive mindset can make all the difference, and where one needs to be resourceful

REASONING & PROOF => adds life to critical thinking activities

COMMUNICATIONS => in both oral and written contexts

REPRESENTATIONS => alternate solutions should be welcome After the group worked through a number of mathematical challenges deploying different solution techniques and methods for validation, the facilitator concluded with some tips for creating open-ended problem solving prompts. These included: 1) What's wrong with this? 2) Create an example that illustrates... 3) Determine who is correct and why?