Online Problem Solving Post

1. Which problems did you work through?
   a. I worked through the following problems
      i. Three Jugs Problem
      ii. Trio Match Problem
      iii. Wolf, Sheep, Cabbage
2. Which problem was the easiest to solve?
   a. Wolf, Sheep, Cabbage
3. Why was it easy to solve?
   a. I think the reason it was the easiest for me is because it was very visually oriented, and I am a very visually oriented person.
4. What type of problem was it (see Kirkley, 2003 article pg. 8)? Explain.
   a. I believe this problem was a well-structured problem because I can only see that it would have only one solution.
5. What strategy did you use to solve the problem?
   a. I used mental models in which I envisioned the various outcomes of moving the three items from one side to the other at a time.
6. How did you develop this strategy?
   a. I thought about what would happen to each item as the man moved away from the shoreline. I had to make sure that none of the items would be eaten as they were left together on the shore.
7. What declarative knowledge was needed to solve this problem?
   a. I had to know what "ate the other items," what would be safe to leave together "wouldn't eat other items."
8. What procedural knowledge was needed to solve this problem?
   a. I had to do mental modeling and problem representation. I had to use analytical thinking.
9. Which problem was the most challenging for you to solve?
   a. The Three Jugs Problem
10. Why was it difficult to solve?
    a. I think it was the most difficult to solve because it took so many steps in order to solve the problem.
11. What type of problem was it (see Kirkley, 2003 article pg. 8)? Explain.
    a. I'm not sure if this was a well-structured problem or a moderately structured problem because I'm not sure if there is more than one solution to the problem. I think it could be possible to solve in more than one way.
12. What strategy did you use to solve the problem?
    a. I had to think aloud and write out my thoughts as I worked through the problem. I did use some metal models as well as some visual models (I drew out models as I worked the problem).

13. How did you develop this strategy?
    a. Because I am a very visual learner, drawing diagrams is very helpful for me. I drew jugs to represent each of the three jugs holding the different amounts. Each time I thought through the pouring of water, I drew out how much would be represented in each jug. This helped me visualize the amounts in a way that made it easier for me to understand. At one point I realized that I was on the wrong track and had to start over again. The 2nd time through, I was able to work it out mentally and just jotted down notes.
14. What declarative knowledge was needed to solve this problem?
    a. I needed to know that the 2 people needed to share the water equally-- 4 quarts each. I needed to know the number of quarts that each jug held, 8 quarts, 5 quarts, and 3 quarts. I needed to be able to add and subtract easily.
15. What procedural knowledge was needed to solve this problem?
    a. I needed to be able to work through mental modeling, abstract reasoning, problem –representation, and analytical thinking.. I had to invent a strategy – visual modeling