

## **Online Problem-Solving Assignment – Shaylee Rademacher**

1. Which problems did you work through?

**I worked through the Wolf, Sheep and Cabbage, the Trio Match, and Entrapment.**

2. Which problem was the easiest to solve?

**The Trio Match was easiest for me to “solve.” I put solve in quotation marks because while I know how to play the game, I wasn’t great at it, and I haven’t taken the time to get better and advance beyond the second level.**

3. Why was it easy to solve?

**It was easiest for me to solve because I was given almost step-by-step directions, and rules that provided clarity to me about the end goal of the game.**

4. What type of problem was it (see Kirkley, 2003 article pg. 8)? Explain.

**I would classify the Trio Match as a Well-Structured Problem. It had clear step by step directions. Although there were multiple ways to achieve the goal, each time you lined up the shapes and colors, the same thing happened. All the information that you needed to be successful with the game was provided in the directions.**

5. What strategy did you use to solve the problem?

**Strategy? Who said anything about strategy? □ I generally jump into something (without reading the directions) try it, and if it doesn’t work, I go back and read the directions and**

try again. This was exactly what I did with this problem. When I first looked at it, it looked similar to a Candy Crush-type game. Then I studied the screen trying to figure out how to move the shapes. This is when I had to read how to move the shapes using the keyboard arrows.

6. How did you develop this strategy?

Upon reflection of my “strategy” I realized, I’m just like my students. I jumped in, tried it. When it didn’t work then I had to try to solve the problem the logical way. I needed to look for, find and read the given directions. My students do the same thing, except for looking at the directions, they say, “I don’t know what to do,” “What do I do next?”, or “This is too hard.”

7. What declarative knowledge was needed to solve this problem?

- 1) I needed to be able to identify the given shapes.
- 2) I needed to be able to identify the given colors.
- 3) I needed to know how to find the game using the link on the website.
- 4) I needed to know how to find the website.
- 5) I need to know how to read to choose which game to play.
- 6) I needed to be able to think through several moves based on which shape or color was coming up next in line.

8. What procedural knowledge was needed to solve this problem?

- 1) I needed to know how to move the shapes around and how to drop them into place.
- 2) I needed to know how to continue the game.
- 3) I needed to know why the game quit if I lined up three of the same color and shape.
- 4) I needed to know how to find the rules and directions for the game.

9. Which problem was the most challenging for you to solve?

**The problem that was most challenging for me was by far the Entrapment game.**

10. Why was it difficult to solve?

**I still haven't solved the game. I was able to make it past the first level only, so I understand the rules and what I'm supposed to do, but that's as far as I got. It is difficult for me because I think I know what to do, but when I try it, it doesn't work.**

11. What type of problem was it (see Kirkley, 2003 article pg. 8)? Explain.

**I'm not sure if it would be defined as a moderately structured problem or an ill structured problem. I was given directions and given an example, but the solution is not straight forward. It seems like there would be more than one solution to the problem, but since I can't figure out one way to do, I definitely don't know if there are multiple solutions per game.**

12. What strategy did you use to solve the problem?

**As usual for me, my "tried and true" method is trial and error. I was able to work through the example problem relatively easily using the directions. For this problem, I did read the directions first because I didn't have any experience with a "game" like this. On the next level, I made multiple attempts to solve it. I even went so far as setting it up with two of the gray dots and moving the other around from space to space to see if I could find the right spot. I'm finding that I'm not good at this, and it's actually quite frustrating. I'm sure if I had more time then I could figure it out...maybe.**

13. How did you develop this strategy?

**I read the game instructions, tried it with the first level or practice level. I made it through by trial and error. I went on to the next level but could not make it work. At this time, I re-read the directions and considered what it said about making triangles. I tried this suggestion many times without any success. I am a person that doesn't like to "give up" and I finish what I start, so leaving this undone is difficult for me. At the same time, I could feel my blood pressure going up as I kept trying different combinations, and no one needs that. Yikes!**

14. What declarative knowledge was needed to solve this problem?

- 1) I needed to be able to read in order to read the directions.**
- 2) I needed to be able to distinguish between red and gray.**
- 3) I needed to know the rules of the game, i.e. all of the red dots have to be mid-way between two gray dots.**

15. What procedural knowledge was needed to solve this problem?

- 1) I needed to know how to move the gray dots around the screen.**
- 2) I needed to know how to use a track pad on my laptop in order to move the gray dots around the screen.**
- 3) I needed to know how to open a link to get to the game.**
- 4) I needed to know how to find the website in order to find the game.**