

1. Which problems did you work through?

I worked through all of the problems.

2. Which problem was the easiest to solve?

I thought the Wolf, Sheep, Cabbage problem was the easiest to solve.

3. Why was it easy to solve?

I think knowing that one would eat the other if the man wasn't around helped me to be able to determine the best order for travel, including a "round trip" for the sheep.

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

This problem was a well-structured problem in that there was only one solution that followed the same steps each time.

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

The strategy I used to solve this problem was a mental model. I began running if/then scenarios in my mind. For example, "If I take the wolf, then the sheep will be safe, but the sheep will eat the cabbage. If I take the sheep first, then everything will be safe. What would I have to bring next?"

6. How did you develop this strategy?

I developed this strategy throughout my life in various contexts. Most recently, I have used if/then statements with my students to help them to understand the consequences of their actions, both positive and negative.

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

The declarative knowledge needed to solve this problem was the principle that if the man was not around, then the wolf would eat the sheep and the sheep would eat the cabbage.

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

Knowing that if the man was not around, something would not be safe, I was able to develop an algorithm for how to get each item across the river safely. First I would take the sheep, then the cabbage. I would then take the sheep back and trade it for the wolf. I would leave the wolf with the cabbage and return for the sheep. This algorithm doesn't change in this problem because the declarative knowledge never changes.

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

Entrapment was the most challenging problem for me to solve.

10. Why was it difficult to solve?

I believe this one was so difficult because there was not an algorithm or pattern that repeated itself. Each game was unique and required different strategies to solve.

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

Elimination falls into the ill-structured problem type. This is because the solution is not predictable and it requires knowledge of properties such as midpoints and bisects.

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

I attempted to use a mental model as I had previously, but it did not work. Each time the game refreshed I would have to begin again, even if I had just solved it previously.

13. How did you develop this strategy?

My mental model strategy did not work well and I was unable to solve the problem using a different strategy.

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

The rules of the problem were the only declarative knowledge provided and it was still very vague.

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

I do not think there was any procedural knowledge in this problem as no two problems were alike.