Introduction:
For this assignment I observed two individuals working together to perform an assigned word processing task. The two subjects have varying degrees of experience, but neither could be described as an expert. Subject A is a 66 year old female and subject B is a 16 year old male.

Breakdowns:
The first significant breakdown in the word processing task occurred in creating the page format that divided text into two groupings side by side. The subjects began by looking carefully at the example and came up with the idea of columns; “Oh, it is like a newspaper!” A presentation breakdown occurred as they struggled to find the columns command or icon. After trying the tool bar, and the insert menu they found the command under format. Once they created the columns they could not figure out how to place the correct text into each column. They thought they could create the columns as if they were a physical space and move the correct text into it. They tried a number of different approaches to move the text into the right hand column, from trying to drag and drop, to cutting and pasting. While trying to cut and paste, Subject A thought the paintbrush was the paste icon and told Subject B to use it to paste. In her mental model paste was closer to a brush than a page with a clipboard. After being unable to move the text into the right hand column, they abandoned the idea of using columns and tried to create the correct visual by using the space bar. They were unsuccessful in this attempt
as well. Eventually they went to the “office assistant” who explained how to make the text fit into the columns correctly.

The second major breakdown occurred in trying to center information within the columns. The screen icon for centering was easy for them to use, but when they tried it with the first block of text, the top line “Meredith Ringel” would not center. They tried hitting return after the line and then deleting the additional line. They tried adding lines above the first line. Finally they decided to “just center it manually, let’s make it work.” In order to center it manually, they tried typing spaces in front of the line “Meredith Ringel”. This had no effect and led to high frustration. They began to think the computer was “doing something weird”. Finally Subject B began wondering if there was something there he could not see and figured out that there were spaces after “Meredith Ringel” that needed to be deleted in order for the line to center correctly over the rest.

Conceptual Models:

The conceptual model of subject B was generally aligned with the metaphor used by Microsoft Word. Because of this he mediated much of the interaction and executed the majority of the actions. However, both subjects did not understand the idea of columns as cutting the page in half where the text flowed from one column to the other. Rather, the subjects saw the columns more like a paste-up board where text could be placed at will anywhere on the page. Subject A saw the creation of this document as though it were occurring on a actual piece of paper. In this case she thought the user would be able to drag and drop text blocks or images anywhere they chose. When she wanted to move text, she felt like she should be able to place it at will, like if you were gluing a picture
onto a piece of paper – like a paste-up technique or pinning something onto a bulletin board. This idea was reinforced with the presentation breakdown where she saw the brush as a closer match to the idea of paste than a document on a clipboard.

Surprise:

What surprised me most during the observation is that the subjects did not use the help option earlier and more often. The office assistant was available and they knew of its existence, yet they chose to avoid it and keep struggling on their own. They seemed to go to the help agent only as a last resort. Subject A even stated that she wished the book was available because she would rather use it than the assistant. She also commented that she saw the agent as critical. She felt like when she was working, it was thinking about her actions and making value judgments about her ability. She stated that she felt like it was thinking “What in the world is that old lady doing?” My two users were at very different levels of expertise in the use of Word and yet they both resisted use of the help agent. While the less experienced user (A) expressed that she would usually just give up on the task or go to the book, the more experienced user (B) preferred to “just experiment” and try to figure it out by himself. The fact that this was a surprise to me revealed that my model for using Word (and most other applications) includes the help agents and menus as an integral part of the interaction.

Reflections:

Through this experiment I learned that a breakdown in presentation is annoying and costs time, but a breakdown due to a difference in conceptual models is much more difficult to
overcome. Subject B had a similar conceptual model to the program and so even when he found difficulties with a process he was able to find an answer and move on. Due to differences in her conceptual model to that of the program, it was much more difficult for Subject A to analyze and solve problems and then replicate solutions when another problem was encountered.

I also learned that my own conceptual model affected how I interpreted the actions of my subjects during the testing process. I often had a preconceived notion of how the task should be completed and it may or may not have been “correct”. It was difficult for me to keep from helping or giving suggestions about how to complete a task. I had to work to lay aside my own biases to understand why they had acted as they did. Often I found myself making assumptions about their process and formulating answers to the questions I asked before they answered. This is where the co-discovery process was extremely valuable. I could observe their work, but understand their thought processes better because they were verbalizing them to each other, often negating my assumptions.