Data Coding Review

Last week I experienced a very tedious yet somewhat appealing process – data coding. I say appealing because I am a detailed and quantity oriented person. We reviewed open ended questions from 20 plus surveys and coded them according to patterns we encountered in the answers. As I begin to consider my future action research, I see how easily data coding can aid and expand the information I gather. The question I will be addressing in my action research is whether Science Notebooks help literacy (all types, including scientific literacy).

At first I was unsure how to collect data for this type of question. Part of this uncertainty will resolve itself when I conduct a literature review regarding how to measure literacy and English language proficiency. As of now however, I’m considering data collection in the forms of pre and posts-tests in scientific content knowledge, interviews with students throughout the unit, science notebook checks, some sort of language proficiency pre and post-tests and finally field notes. I foresee using data coding in analyzing data from open-ended questions on the science tests, interviews and notebook checks.

During last week’s activity we worked in groups of 3 to 4, and with only 3 questions to analyze, the process was very time consuming. Because of the time-consuming nature of data coding, I’d like to limit using it only with data from the science notebooks and student interviews. If necessary, I will also code my field notes. Mertler gives great examples of how to code your field notes, they are very detailed, and include codes for all types of observations, including visual and auditory (p.126, 2006). I can also
reduce my workload by interviewing fewer students and collecting fewer science notebooks.

Just as last week, I will also begin looking for general themes and patterns when I code my data, but eventually, I’d like to specify the codes towards a literacy slant by keeping my research question in mind. I also must craft very specific interview questions to make sure I elicit responses from students that will be relevant to my research question. I expect that coding will take several passes at my data. I noticed last week that as we coded the responses, upon second and third look (if we got the chance) we often would revise our interpretation and sometimes code differently. I think it will be very important to look over my data several times and perhaps re-code it also.

We were unable to look at our coding results in their entirety last week, and I’d like the opportunity to do so, since I am unsure of where to take it from there. I am hoping to discover if certain patterns emerge in one group of students that uses science notebooks versus another that will not. I will alternate 2 different science units to make sure both groups are exposed to science notebooks. Thus, if coding reveals a specific trend with science notebooks, both groups of students should display that trend by the end of the study.

I found the data coding activity to be very informative. I received a realistic sense of what it would be like to code my own data and plan to recruit people to help since it is such a time consuming process. However, I will have to review all data myself since I don’t want to introduce more than one person’s bias and coding is full of biased interpretation of what you as a researcher observes. What I saw as one type of answer, often my partners saw as another, thus, it is important for me to either mention that I had help coding my data, or do it all myself.