Appendix A

Semi-Structured Interview Protocol

- Background Questions
  - Tell me a little about your background.
    - How long have you been at UNLV?
    - What is your major? Why did you decide on that major?
    - What do you plan to do when you finish your UNLV degree?
    - What kind of science classes have you taken? How many do you have to take?
    - What kinds of education classes have you taken so far?
  - Tell me a little about your favorite teachers. Why were they your favorite? What about the teachers you learned a lot from? (What did they do that helped you learn?)
  - Pretty soon, you will have your own class. What do you want your class to look like? (i.e. How will you run it and why? What is important to you? Is this the same or different from classes that you have taken?)
  - Do you have any concerns/worries about teaching a class in the future? What are they?
- Inquiry Definitions and Experiences
  - My background is in chemistry, and I attended my first education/methods classes last year. While I was there, I heard about an idea called "inquiry," and I'm still trying to understand what it means. I think the word "inquiry" has different meanings to different people. Can you describe for me, in your own words, what inquiry is to you?
    - Where did you think you learned what inquiry was?
    - Describe a typical classroom experience that you would think of as inquiry.
    - What kinds of concepts can you study through inquiry?
    - Can you give me a metaphor or an analogy for inquiry?
  - Do you remember experiencing inquiry in any of your high school or college classes?
    - Can you describe those experiences for me?
    - Did you like it when teachers used inquiry methods? Why?
  - If one of your education teachers asked you to design an inquiry experience, what do you think you might propose?
  - What do you think are the advantages and disadvantages of using inquiry methods in a class?
  - Are there any limitations to using inquiry in science classrooms? If so, what are they?
  - Why do you think teachers would use inquiry methods in class? (What did they want you to learn? What was their goal in using these methods? What are the results of using inquiry?)

- [Use either or both of the next two questions.]
    - There are a lot of different teaching techniques that a teacher can use in a science class. I'm going to list some of these, and I would like you to tell me if you would consider these techniques to be "inquiry" techniques and why (and/or what would have to change in these classroom situations to make them more inquiry-oriented).
        - Using graphics on the Internet to explain how gas molecules move.
        - Hands-on labs
        - Having the class participate in individual projects
        - Asking your students to write a biography of a famous scientist
        - Letting your students complete a lab online.
        - Asking your students questions
        - Having the students complete worksheets
        - A lecture about photosynthesis
        - Showing a demonstration about the effects of liquid nitrogen on a balloon
        - A class discussion about the arrangement of the periodic table
    - I brought some examples of science teaching with me (video clips from "The Glenn McKnight Case: A Video Ethnography of Fourth-Grade Constructivist Science Teaching" and "Video Case Studies in Science Education"). I want to watch some of them with you. After you watch each one, I want you to tell me if what you saw is "inquiry" or not and why you think it is or isn't (and/or what would have to change in these classroom situations to make them more inquiry-oriented).
- Future Use of Inquiry
    - For the next few questions, I would like you to think as a future teacher.
    - From a teachers' perspective, what do you think the advantages are of using "inquiry" in classrooms? Disadvantages?
    - What subject will you teach? Which topics in your field do you think you might teach with inquiry? (How would you do that?)
        - Are there any subjects in your field that you just don't think that you could teach with inquiry? What are they and what makes them hard to teach with inquiry methods? (Could _____ be taught with inquiry?)
        - Are there times or circumstances in which you would choose to use inquiry? In which you would choose not to use inquiry?
    - Do you think you will use inquiry methods when you teach? Why or why not? (What will be your goals in using it? What will motivate you to use it? Keep you from using it?)
        - Can you describe something you might do in your classroom that you would consider to be inquiry.
    - What do you think are potential problems of using inquiry for your potential students? Benefits for your future students?
    - Do you think that there are certain students (or groups of students) that would learn more from inquiry? (with whom you would be more likely to use inquiry?)