Brianna Cervantes

**Mid-program Reflection**

 My time throughout Longwood and being a part of this amazing science program has been a wonderful experience. Throughout the year and a half that I have been here, I have been trying to achieve three main goals: to develop an understanding of the concepts of biological sciences, to develop the ability to collect, organize, and evaluate scientific information through experimental learning, and to demonstrate the ability to communicate science effectively within and across disciplines.

 In the first goal, to develop an understanding of the concepts of biological sciences, I feel that I have hit many of the points within it. I feel as though I can identify the major principles of biology, especially since it seems like it is second-hand nature as this point and so I don’t even have to think about what they are. My work in my Biology 120 class, as displayed in my e-portfolio, demonstrates my knowledge of the principles of biology. The presentation in my e-portfolio shows the basic principles that were learned through experimentation and presentation. When it comes to cell and molecular biology, I feel that I have a general understanding of the information, but nothing in as much detail as I could because I haven’t taken a higher course, as of yet, to understand more of the material. The class I took that demonstrates this learning path was Biology 250, which can also be shown within my e-portfolio with a paper that I had written based off the poster that is also there, which was presented at the Research and Inquiry Showcase here at Longwood. The major principles of ecology and evolution is a different story that the other two, I understand the basics, but when I took this course, Biology 251, it wasn’t an honors section, which I thought wouldn’t change too much of the material, but I soon found out that there was a big difference of the material taught between the two different levels. This leads me to believe that I don’t understand all of the concepts to do with this learning goal. I also didn’t have the best of experiences within that class because the professor did not teach the material in a manner that we could understand a question without his direction, and many of the questions that were on quizzes that we took were on material that we hadn’t covered yet. Within that class we had an experiment that we conducted, which is located in my e-portfolio, that we created a presentation for the Research and Inquiry Showcase as well.

With organismal biology, I have a very minimal understanding of this concept based on what I have learned in my job at home and from doing my own research, but I haven’t taken this course yet, which causes my knowledge in this subject is very limited. Another huge topic in biology is chemistry, which is why I took on the minor, but I also enjoy chemistry very much, and I feel that I have progressed in this pathway because I have gotten high grades in these courses and am able to tutor others, as a Chem Wizard, in some topics that deal with chemistry. Another topic that also is big in biology is physics, which I have a lack of knowledge because I didn’t take the course in high school and I am only going to be taking it in the upcoming semester, so that area is currently limited. As for putting all my knowledge into issues in society, I feel that I do that very well, especially when applying what I’ve learned into my job at work or presenting at the Research and Inquiry Showcase, as mentioned previously. A lot of the material that has been taught to me so far is useful in helping others understand up to date research that may be coming out and that people that are not associated with the sciences are starting to learn about, and so I use my knowledge to help them understand the topics better.

 The second goal, to develop the ability to collect, organize, and evaluate scientific information through experimental learning, I feel that I have strived in completing. One of the points that I need to have made progress in is to evaluate, interpret, and apply experimental design and draw valid conclusions from experiments. I feel that I do this very well because of what I have been taught in multiple classes, and from the natural way that my brain works. An example of this would be the presentation that is in my e-portfolio that I did for Biology 251. I did all, or most, of the data analysis from what we collected, and interpreted it as well, which can be shown within that presentation. Another goal that I need to have made progress in is to analyze data quantitatively and develop testable methods of the data, which can also be shown within that same presentation, but can also be represented in a paper that was written in that same class, also located on my e-portfolio. The last point within this goal is to be able to evaluate and interpret data in scientific literature and other sources. Within the same presentation as mentioned previously, we, my partners and I, looked at other sources that had to do with roadkill and interpreted their data in order to have some background knowledge, which helps to show my progress with understanding this point.

 The last goal, to demonstrate the ability to communicate science effectively within and across disciplines, I feel that I have made a lot of progress in. In order to show my progress, I would have to demonstrate that I write effectively in multiple contexts, effectively communicate orally in multiple contexts, be able to prepare and present, orally and in writing, to scientists in other disciplines and audiences outside the sciences, be able to collaborate effectively in a group setting, and perform competently in a professional setting. I feel that I have made tremendous progress in all these steppingstones for this goal. All the evidence that I have previously mentioned all incorporate these different points. As for professionally, presenting in the Research and Inquiry Showcase for multiple semesters, for both class projects and research with a professor, has shown that I can be professional and present to both people within the sciences and people within the community, since the showcase is opened up to the public.