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Practicum in STEM Leadership
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Assignment 3: Proposal Submission

1. What is the title of your mini STEM professional development?

Developing writing skills in the sciences across middle and high school

2. Why did you select the topic?

In my district I teach both at the middle and high school level and I have noticed that nowhere in the curriculum are there lessons or units that address how to develop writing skills in the sciences. Science writing contains different skill sets that are not addressed in English, in particular writing and explaining about data that was collected. Students are especially weak in this area, and recently the New York State Regents Exam has increased the amount of writing required for students. Therefore this is a good reason to present these skills and strategies. Furthermore as students transition into college, I do not think they have the skills to properly write about science at that level.

3. Who is your proposed audience? Which teachers will you serve with your PD and activities? What grades, subjects, and how many students do they teach?

My proposed audience is the science department at my school. This will include both the middle and high school teachers from grades 6 - 12. The classes they teach include earth science, chemistry, and biology. Due to the wide range of grades attended this PD, the information will eventually reach all students in the district.

4. What "general" science or mathematics concepts or learning goals will you and your materials address which can potentially replace other classroom activities?

The general science or mathematics concepts addressed would be centered around interpreting and writing about large data sets. How to find meaning, determine trends, and write about how this information could be used to better society and general information. In addition to data sets, I will introduce how to use graphic organizers to read and make sense of non-fiction text. Non-fiction text tends to be harder for students to understand and pick out the important information and tone of writing. Most of the resources I plan on using will come from the information I picked up during my Reading and Writing Across the Science Classroom. I definitely intend to show the middle school teachers the NASA 3D view books, and share with them the graphic organizers

that I made. In addition I would use the techniques and resources I discovered when working on my data integration assignment I completed for my Methods of Stem Class. My plan is to create and share a google drive folder with the department to put some of these resources up there as well as giving them a space to post their own resources. The goal is to create a mini data base of activities and resources.

5. How and where do you intend to carry out your PD? How long will the session be? When will it be held? Will teachers have access to computers?

I intend to carry out my PD during a science department meeting. Typically meeting last from 45 minutes to an hour. Teachers will have access to computers during this session.

6. What outcomes or expectation do you hope to see for your educators?

The outcomes that I hope to see for my educators is that they try to incorporate at least 1 technique by the end of the school year. I especially would like for teachers to create it as teacher teams, so that they can put their knowledge and expertise together to create something that is engaging for all students. I plan on giving the teachers time to work together during the PD to create something.

7. How will you follow up with the teachers in attendance?

My plan is to follow up with the teachers at the next department meeting. To check in and see if they have tried anything or have any questions.