Practicum in STEM Leadership Professional Development Proposal – Billy Green

---

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

"Science in ***TRANS***ition"

2. Why did you select the topic?

During the first course of the program, "Methods in STEM Education – Secondary" I was so inspired by the Nature of Science assignment. I struggled to choose a topic and then stumbled upon an article titled "Science in Transition" by Sara Reardon. The article summarized the ENIGMI studies which is the largest study of its kind that will provide insight into the medical transitions of transgender people. It was fascinating for me to go through the assignment and connect it to scientific understanding. I began to question, if my colleagues new of the recent findings in this field and the impact it would have on the learning of people who are of the trans-experience. I became highly interested in how Science Teachers, Science Classrooms, and Science Curriculums introduce the science behind transgenderism.

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?

The proposed audience is a mix of pre- and in- service teachers who are enrolled in a methods course for teaching science in my school district. These teachers were chosen because they teach The Living Environment, Biology, or some form of Life Science. The teaching ranges from third grade to twelfth grade. There are 25 students enrolled in the course, and they each teach an average of 80 students per day.

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

Science as it is currently taught is not inclusive to gender expansive youth. Sitting in a classroom, especially a science classroom, that validates itself on laws, theories, and evidence, is traumatizing to a gender expansive student. Imagine, your Biology teacher is teaching genetics and states "boys have XY genes and girls have XX genes", while this is scientifically true, current research has linked sexuality to genetic markers. The teacher will rarely teach the later part of the aforementioned statement, and students identities are being attacked by curriculum that is not inclusive.

Goal 1: To gain a clear understanding of the nature of science as an evolving practice.

Goal 2: To develop the language that can inform change to promote curriculum and classrooms that are inclusive of the gender identity spectrum.

<u>Goal 3:</u> To obtain teaching strategies that will be inclusive of gender expansive youth and assist others in gaining a better understanding of the complex relationship between science and identity.

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? (Teachers will have access to their computers)

Science In TRANSition: *Creating Spaces for Inclusive Practices in Science Classrooms* ***Hunter College, City University of New York***		
Time	Activity	Goal(s) / Learning Outcome(s)
15 minutes	Introduction	To understand the motivation of the presenter. To create a space that is safe and inclusive.
30 minutes	**Activity 1 – What Does the Research Say?** a. Common Article Review b. Research Article Review c. The Language of Research	To synthesize the current research involving transgender individuals. To deconstruct the language Scientist use to communicate with the general public.
15 minutes	**Activity 2 – Language Boot Camp** a. The Language of Inclusion b. Musical Conversations	To obtain the language necessary to create inclusive spaces in science classrooms. To introduce a teaching strategy useful in building inclusive settings.
30 minutes	**Activity 3 - Gender Icon Construction** *a. SOGIE the Astronaut and the Gender Bread Cookie* *b. Gender Poster Creation*	To create a gender icon that visually expresses the gender identity spectrum.

	Activity *c. Gender Poster Gallery Pin Up*	To share out our learning to the whole community.
20 minutes	**Activity 4 – Curriculum Scavenger Hunt** a. Finding Three Activity b. Inclusive Fixes Activity	To discover specific topics in the current curriculum that are gender exclusive. To learn a strategy for creating lessons that are inclusive.
10 minutes	**Conclusion – Implications for Teaching and Learning**	To discuss the impact of this topic on 21st century Science Teaching.

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

Please see column three of table above.

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

- My district has a great Inter-visitation cycle. During these cycles, I can visit teachers who would like for me to support them through implementing an “inclusive lesson”.

- I will give them my contact information and request any support or further resources they would need.

- General survey and an extended post survey.