

Once a Learner, Always a Learner

By Chrissy Chavez

Education is a field in which teachers can never get too comfortable, which is both exciting and challenging at the same time. Change sometimes comes sooner than you expect. Only six weeks in to the 2017-2018 school year, I learned that my new placement for 2018-2019 will be back to where I started my career teaching middle school science. Despite spending the first part of my career in middle school science, I have worked diligently over the last four years to develop my expertise as a literacy teacher through professional development, Twitter chats, peer collaboration, and professional reads.

As I embark on a familiar journey in terms of teaching the science content area, my path must be different to create budding scientists who can critically examine the world around them and offer solutions to problems we face every day. By continuing to explore Design Thinking, fostering inquiry through the creation of a **Next Generation Science Standards** (NGSS) science classroom, and seeking out professional learning to develop my pedagogy, I hope to enhance my professional practices as science educator while fostering a space that nurtures a scientific identity.

Channeling My Inner Designer

In an effort to create a space to nurture a scientific identity, my goal is to channel my inner designer when creating an authentic, relevant, and innovative science curriculum. Design thinking - a creative process for problem solving - engages a

designer in a thorough five step problem solving process in which the designer empathizes with the user, defines a problem, ideates to solve the problem, prototypes solutions, and tests out prototypes to refine or define prototypes and solutions (School at Stanford, 2010). Through coursework in the Master of Arts in Educational Technology Program, I implemented design thinking for an integrated science, technology, engineering, and mathematics (STEM) and literacy curriculum.

I plan to apply this learning to curriculum design while exploring additional professional opportunities to learn more about Design Thinking. Continuing to explore Design Thinking will support me in diving deep to determine potential solutions that I may face in my classroom and school. For example, for the last three years the third through fifth grade band has been struggling with growth and attainment on the district mandated standardized test. Although my school the instructional leadership team has conducted root cause analysis to solve the problem, our school continues to see similar results. Design Thinking offers a new way to examine a problem and to generate potential solutions. **General Assembly Chicago** offers additional workshops to help designers develop solutions for complex problems and the **d.School at Stanford** curates resources to further explore the topic.

Creating an NGSS Classroom

In preparation for the upcoming school year, I attended a district wide professional development with a focus on using the **Teaching for Robust Understanding (TRU) Framework**, specifically developing agency, authority, and identity, to create an NGSS classroom. As a science teacher next year, planning will

require a shift from utilizing the Illinois State Science Standards to the NGSS. It is essential to develop my understanding of how to plan, teach, and implement rigorous inquiry based science instruction in which students drive instruction. I will continue to explore NGSS through the three cycle district science summits, peer collaboration with science educators in my district, and the community of STEM educators that are part of the **MSU Urban STEM and Leadership** community.

Can't Stop, Won't Stop: More Professional Learning

As my master's program ends, new learning opportunities are around the corner. My goal is to continue to develop my content and pedagogical knowledge through professional development, additional coursework, and professional reads to effectively teach science. To develop my practices, I will explore coursework locally at the **Museum of Science and Industry** and **Peggy Notebaert Nature Museum**. Each museum offers teacher courses around STEM instruction with close partnerships with the museum for field trips and citizen science activities. I also would like to attend national professional development such as the **National Science Teachers Association** (NSTA) conferences to extending my learning beyond master coursework. I hope to develop my expertise as a science educator in the NGSS era and hope have a similar expertise level as my literacy expertise.

Through the implementation of the three-step plan, I hope to create a space to foster my students' scientific identity and ensure students have the skills to critically analyze local and global issues with a scientific lens. By continuing to explore scientific

thinking, I will be able to identify a complex science problems related to developing scientific identity and will be able to collaboratively problem solve to refine innovative solutions. Transforming my classroom into an NGSS classroom will ensure my instruction includes STEM cross-cutting concepts as well as science and engineering practices. These skills are needed to solve real world problems. Learning never ends. I'm excited to embark on this new professional journey.

References

School at Stanford. (2010). *Bootcamp bootleg*. Retrieved from
<https://dschool.stanford.edu/resources/the-bootcamp-bootleg>