

Self-Reflection Paper

Mary Katherine O'Brien

Culturally Relevant Pedagogy in STEM Education

6/10/18

Part 1: Identity Reflection

There are several parts that make up one's identity. In exploring my identity/culture, there are several significant groups I see myself apart of such as being a woman, Catholic, American citizen, and being of Irish descent. As I think more about my identity, being a mother, wife, teacher, sports fan, mathematician, extroverted/introvert, older millennial, activist, liberal democrat, feminist, Mainer, and swimmer are other groups I can fit myself in. Each of these aspects developed over time and how much I fit into each category changes over time as well. It amazes me how my different my siblings and I are even though we were all brought up in an Irish Catholic household, I am the only one of the three that attends mass regularly, and I currently teach in a Catholic school.

Numerous factors shape a person's identity/culture. For myself, the first major factor was my birth and birth order. I was born into a large Irish Catholic family and in Maine. Also, as the oldest of three, I think I approach life differently than my siblings. I grew up afraid to do the wrong thing and need to be the best student. A lot of this pressure was from my father and caused me to become an overachiever who joined too many clubs and sports. It wasn't until the end of high school, and into college, I started to find the things I truly loved like swimming, basketball, and being a planner (yearbook and later an event planner for a college club).

I do not think my identity has changed much over time, but my ability to stand up for myself has. During elementary school, I looked up to several social/political activists. In second grade, I wrote a research paper on Frank D Roosevelt, while my classmates researched animals. I wrote other papers about Martin Luther King Jr, John F. Kennedy, Rosa Parks, and Margaret Chase Smith (first woman to serve in the US House and Senate). Reading about these people made want to stand up for people being put down, but my shyness stopped me

from doing that. As I have gotten older, I am not afraid to make my voice be heard, and I stand up when I feel there is an injustice.

I feel my identity drove me to education. We are the profession that has the most significant impact on the future. It is also a profession that requires you to care about others and stick up for the little guy. Students need an advocate that pushed for what is best for them. I want all my students to, and I do not want circumstances beyond their control such as a learning disability or home situation to affect that.

Part 2: STEM Learning History

Some of the earliest memories I have of math did not occur in school. I do not remember learning adding and multiplying decimals, but I remember being seven or eight and adding up my American Girl doll catalog. I would spend hours adding by hand how much each section would cost and how much I would need to earn to buy it all. This grew into shopping with my parents and adding up the grocery list to make sure we were not charged too much money. I think things stick out the most because I was using math for a real-life purpose (albeit a selfish one with the American Girl doll catalog). I have a hard time recalling when we used math in a project. I remember doing lots of cool projects in during elementary school in science, like creating a weather forecast as part of a newscast, in social studies we created an ABCs of our town, and even in art, we created a life-size moose out of sticks we brought in (I live in Maine). However, I can not recall any significant project like one of those in math class. Even though there were not many ways to explore math, my love for math grew as I got older but I did not tend to show it as I was afraid to draw attention to myself.

During high school, I attended an all-girls school. Being in this type of environment helped me to come out of my shell and show my love of math more openly. I gain confidence in myself that

I had not experienced before. My freshman and sophomore years of high school we had two different math teachers who had a hard time connecting with students. During freshman year, the teacher had been a college professor and talked over most students head. While I did not necessarily understand what she was saying, I was able to teach myself from the book and ended up teaching a few upper classmates. During sophomore year, while teacher spoke more on our level, she had a hard time adapting when we did not understand something and would repeat the same thing over and over again. So just as I did in freshman year, I spent a lot of class time teaching my classmates the material. These years helped shape me as a teacher. I committed myself to always to be willing to adapt my teaching and try to match the level of my class as best I can. Luckily, during my junior and senior year of high school, my math teacher did just that. She pushed us harder and would explain topics in new ways when we were confused. It was the first time in my education I remember being challenged in math class.

While high school helped shape what type of teacher I wanted to be, college help give me a reason to be a math teacher. During the fall of my second year, I had arrived early to my linear algebra class. There were only a few people in the room, and I took a seat at the back of the room. As more students came in the room, I started to notice a trend. I was the only female student. I was extremely intimidated that first week of classes. Most of that confidence I had gained in high school seemed to disappear, though after the shock I gain most of my confidence back. It made me think about how many females were in math fields. Many of my classmates had only male math teachers in high school, and most of my math professors were male. I knew I need to be a role model for students but especially for the girls in my classes. I had a teacher in school that used to say he never wanted to be president but he has always wanted to inspire a future president. I like that motto and apply it to myself, as I would love to inspire more girls into the math field.

Part 3: Role of culture in teaching

I agree with the belief that you learn best when you can connect with what you are learning about. I try to get my students to connect to the material we are learning but using examples that they can identify with during class. I also try and select STEM units that make sense for the area I am teaching.

Culture also plays a huge role in how someone teaches and learns STEM. In one of the schools I subbed in, they were doing a unit on beach erosion. This STEM unit had meant to the students since the school itself was minutes from the beach. This type of unit might not have the same connection to a group of students that have never been to the beach. I believe STEM units have more meaning when a student can connect to the unit.