

Self Reflection Paper: Andra Myers

Part 1: Identity Reflection

I was fortunate to grow up in a middle class family with both my parents and a brother who is three years older than me. My parents moved to a suburb of Rochester, NY (Greece) from Ogdensburg, NY to raise their family. Ogdensburg is located in Northern NY along the St. Lawrence River. It is on the border with Canada. While Ogdensburg is a beautiful region, it has limited community resources. My parents wanted my brother and I to have experiences growing up that were available in Rochester but not in Ogdensburg, such as plays, museums, restaurants, etc. as well as opportunities in Ogdensburg that were not available in Rochester (growing up along the St. Lawrence River). Ogdensburg is a rural area with limited educational opportunities and limited diversity among the population in terms of race and culture. Prejudices and stereotypes for people from different cultures are prevalent in Northern NY. My parents wanted my brother and I to attend strong schools. So during the school year, lived in Rochester and during the summer months I lived in Ogdensburg at a summer camp with my parents.

My maternal and paternal grandparents both lived in Ogdensburg. My paternal grandfather, who was an insurance agent, passed away suddenly from a heart attack when I was two years old. My paternal grandmother, who was a nurse, passed away when I was in graduate school. My maternal grandmother, who stayed at home to raise six children, passed away when I was in 3rd grade. My maternal grandfather, who was a captain on the ships along the St. Lawrence River, passed away when I was in college. My maternal grandfather, who I called Papa, held some limiting views of education for women. He did not believe that women should

go to college and definitely thought of women as housewives only. So my mother went to beauty school and became a hairdresser. My parents are both very hard working people. When I was little, my dad went to night school to earn a bachelors' degree from RIT. I don't remember much about that other than that there were nights when my father was not home because he had to go to school. My mom was fortunate to be a stay-at-home mom to raise my brother and myself. She is a very strong woman and refers to herself as a "domestic engineer".

When I was in Ogdensburg, I was the only girl in the neighborhood of my family's camp. I was also the youngest. So I would tag along with my brother and his friends (a group of about 8 boys who were 3-5 years older than myself). I was not always welcomed to tag along, but they mostly tolerated me. So I grew up enjoying many of the outdoor activities that my brother and his friends did (golf, water skiing, boating, biking, fishing, etc.). I was often teased for being a girl and also for being the youngest. So I would not really say that any of these "peers" were friends of mine, but they learned to tolerate me most of the time.

In Rochester, I had a close set of friends. This was before the technology of today. We did not have a phone at the summer camp for many years. When we did get a phone, it was a party line where neighbors shared the same phone number and could listen in on conversations. So my Rochester friends and I relied on writing letters to each other to stay in touch. We did not have an address at the summer camp (and no drinking water either). So letters were sent to my grandmother's address. We hauled buckets of water from a local grocery store to camp to use for drinking and cooking. Bathing and washing water came directly from the St. Lawrence River.

So it was interesting growing up because I feel like my parents provided me with two unique experiences. When I was along the river, I was treated like a “city girl”. When I was in Rochester, I was treated like a “country girl”. I really enjoyed these experiences and feel fortunate to have had these opportunities. As I grew older, I was able to expand my group of “friends” up North. I took drivers education in Ogdensburg and met several people my own age not associated with my brothers’ group of friends. This was outstanding for me, and a great relief. Now I had a circle of friends in both locations, which meant lots of letter writing throughout the year.

I would say that my identity is a typical female middle class Caucasian experience with a supportive family. My background is a combination of English, Irish, German, and French (basically a mix of European countries) with some Canadian and Native American mixed in too. I have a great appreciation for my family and the experiences they provided to me growing up. My identity and culture evolved based on the two experiences I had of growing up in a suburb of Rochester as well as the rural experience along the St. Lawrence Seaway. I bring these perspectives and experiences with me to my classroom everyday. My identity and culture have evolved over time, and continues to evolve as I grow older and experience new situations. As an educator, my experiences, culture, and background allow me to relate to diverse students who are in a suburban setting, which is where I teach. Many of my students have a similar culture as myself, but there is also a good number of students who do not have the same perspective as myself. I keep an open mind with my students and hope to widen their experiences and opportunities. By keeping an open mind and caring about each student as a distinct individual with unique perspectives and experiences, I learn a lot about my

students and their cultures. I try to put myself in my students' shoes and view life as they do. As I learn more about my students and their cultures, I understand their perspectives more and I am able to relate more to their views.

Part 2: STEM Learning History

I always enjoyed learning math. Many of my friends had difficulty understanding mathematical concepts. I was always glad to help them learn the material. I vaguely remember having difficulty memorizing my math facts when I was younger. I remember being pulled out into the hall to work on multiplication with some adult I did not really know. I remember she used flashcards with me, which did not really help at all. In third grade, my teacher has us write lists upon lists of multiplication facts repeatedly over and over again. While this strategy was very tedious, it actually did help me memorize my math facts finally. Another topic in math that I remember having difficulty learning about factoring. I just did not understand how to factor a binomial using reverse FOIL. I remember my father sitting down with me at the kitchen table and helping me through this.

I learned mathematics with a traditional approach. The teachers would have students take notes in class. Then we would complete practice homework problems that mimicked exactly the content that we took notes on that day. All my math teachers in middle school, high school, and undergraduate college approached mathematics in this manner. Instruction was not differentiated or varied at all. There were no projects, no group work, and no partner work. Class time was mostly one sided with the teacher doing most of the talking. Questions were only directed to the teacher and not to other students. I responded well to this approach and learned the math rules quickly. I did not always understand the concepts behind

these rules, but I was able to complete the problems successfully. I viewed assessments as mini-games I would play with the teachers, trying to predict what types of questions would be on the test/quiz and hoping to get all the questions correct. I viewed assessments as opportunities to show what I knew. I was often approached by my math teachers to participate in math competitions. I never wanted to be in these competitions because I am not a competitive person at all. Instead I would rather work together and help everyone be successful and not compete against others individually. I always joke that I would make the worse coach of any sports team because I would not care about the number of wins the team had. Instead, I would concentrate on making sure everyone was participating, learning about the sport, and having fun.

I attended several different building throughout my years in the Greece Central School District. I attended grades K-3 in Barnard Elementary School, grade 4 in Longridge Elementary School (there was redistricting in the schools), grades 5-6 back in Barnard Elementary School, grades 7-8 in Hoover Junior High School and grades 9-12 in Olympia High School. In sixth grade, I remember my teacher having me take a bunch of tests and meeting with the school counselor. I remember taking ink blot tests. I was not sure why I was taking these tests, but I figured there must have been a reason. It turns out that my teacher was trying to decide if I should be placed in advanced classes for 7th grade, with was junior high school for me. I must have done ok on these tests as I was placed in accelerate math and science for 7th grade. At the end of 8th grade, my teachers decided to place me in all advanced classes for 9th grade. I didn't really pay attention to any of this. I just looked at it as I would be happy to learn at any level and I would try to do my best to succeed.

I will never forget one Social Studies teacher I had in high school. Writing was not a strength of mine, but I was diligent and would try hard with every writing assignment. I would always receive opposite feedback and poor grades from this one particular Social Studies teacher. One essay he would tell me that I was being too specific and that I needed to be more general. So one very next essay, I would be more general and his feedback was that I needed to be more specific. This cycle continued for quite a while even after I was meeting with him after school for help on these assignments. Needless to say, this was very frustrating for me. I am a very patient person, but I was very upset by this. My parents and I met together with this teacher to see what I could do different. During this meeting, the teacher said that "Girls are just never going to be as bright as boys in my class." My parents and myself were astonished by this. We decided as a family that this teacher was just going to be difficult all year and I would just get through his class the best I could. At that time, families did not challenge teachers. Whatever the teacher said was the way it was supposed to be no matter what. Well, I ended up with a B+ in his class, which my family and I were ok with, although I would have preferred a higher grade. I have high expectations for myself and I was not happy getting anything lower than an A for a course. Again, I was not pushing myself to compete against other students. I just wanted to do the best I could in every class.

At the end of my junior year in high school, the guidance counselor invited students to come down to her office to see their ranking. I was curious where I was in the class. When she informed me that I was #3 in the class, I was really excited. I had no idea I was that high in my class. Again, I just wanted to work hard and do that best I could do personally. It turns out that the #2 person was the son of the school district's superintendent and the #1 student was another male. This really

stung for me, especially since both of these males were in that same Social Studies class I was and I am sure that they received higher grades in that class solely because they were males based upon the teacher's comments. Then the school district started adjusting the ranking system using a weighed system and adjusting the points attached to different courses. So sometimes I would meet with the guidance counselor and I was ranked #2. Other times I would meet with the guidance counselor and I would be ranked #3. It all seemed really political and inconsistent. Not that I personally cared what rank I was, but the whole principle behind it really bothered both myself and my parents. There ended up being 0.01 points difference in the ranking for the 3 of us. My parents and I meet with the high school principal about this to see if anything could be done. She initially was supportive of having the three of us be a committee at graduation instead of the traditional valedictorian and salutatorian being recognized. After meeting with the administrators, we were informed that the decision was out of her hands. The principal was in her first year as an administrator and she was reluctant to become too involved since the Superintendent's son was involved in this matter. We shared out concerns with members of the Board of Education and spoke out at Board of Education meetings too. This was really hard for me because I was a shy student throughout high school. Some board members were also supportive of having a committee for recognition at graduation. Other board members were not supportive of this. After further investigations, my family learned that the guidance counselor has advised the two boys to take AP biology as juniors to get higher class rankings, but had never offered this advice to me. My family and I did not realize that this was even an option. We just assumed that you would take one science class a year, just like everyone else. The entire situation was quite a mess.

Ultimately, the rankings settled out that the boys were valedictorian and salutatorian, and I was #3. Again, I was fine with this concept initially, until I learned more about the politics behind it. It still does not sit well with me even to this day.

Growing up I either wanted to be a veterinarian or a teacher. I decided that I did not want to ever have to put an animal down and that being a veterinarian would be too hard emotionally for me. I have always been a sensitive person who wears my heart on my sleeve. I would have a house full of animals if I could. Since I was good at helping my friends with math, I decided to become a math teacher. After this experience with the social studies teacher, I was further motivated to become a math teacher so that no student would ever have to go through such a terrible experience ever again. As a STEM learner, I was pretty successful K-12 and undergraduate education. I enjoyed learning from all my math teachers and also being able to help my friends understand the concepts. When I was in graduate school for my Master's degree, I focused on just mathematics. This was challenging for me. The approach for teaching math seemed to switch from a traditional, procedural approach, to a more conceptual approach, which I was definitely not used to experiencing. For my doctorate degree, I focused on mathematics education. I have always had high expectations and goals for myself. I was the first female in my family (including my aunts and uncles) to attend college and graduate school. I am also the first person in my family to earn a Ph.D. I am a dedicated person who works hard to attain my goals and ambitions.

My experiences as a STEM learner are definitely reflected in the way I teach. I teach students both the conceptual part of mathematics as well as the procedures. Some students are able to complete mathematics problems computationally, but

not really understand the process of why they are doing those procedures and why they work. So I try really hard to help the students “discover” the concepts behind the procedures first to develop their understanding, which I believe is the true nature of mathematics. I would have been more successful in graduate school if some of my previous teachers had approached math in a conceptual manner. By understanding the concepts, students create solid foundations upon which to build their knowledge. The procedures will make sense to them instead of just being some random rules which they have to memorize to pass a test. The concepts will evolve throughout their education. In addition, my experiences with the social studies teacher help me treat all students equitably. This does not necessarily mean that each student receives the same resources. I try to match the resources to the students’ learning needs and learning profiles. I use a variety of manipulatives, both physical and virtual, to help the students engage and grow in their understandings.

Part 3: Role of Culture in Teaching

I have a poster of Ogdensburg in my classroom. Many of my students have been to the 1000 Islands on vacation before and can relate to the St. Lawrence River. My parents still live along the river. I also share with my students some of my education history and explain to them why my title is either Dr. Myers or Ms. Myers. I leave it up to the students to determine which title they prefer. Most of the students call me Dr. Myers. A few students call me Ms. Dr. Myers, which puts a smile on my face every time. I share my education history of earning a Ph.D. from Syracuse University and what that entailed. The students are always very

curious about this. I also share with my students some of my interests on the first day of school so that they get to know me as a person. I create a mini-pennant of myself that I display on the classroom walls. On this pennant I share how many years I have been teaching, my favorite sports team, pictures of my dogs and family, as well as my hobbies and interests.

The first assignment for each student is to create their own mini-pennants that can be displayed around the room the entire year. They need to include at least five things about themselves on their banners. Some suggestions I give them are their birthdays, a picture/drawing of their families, their pets, hobbies, interests, extracurricular activities, sports, talents, places lived, something unique about themselves, etc. Every pennant needs to have the students' first and last name. They can draw pictures, write words, or use images from the internet to create their pennants. I learn a lot about my students using this open format. I create activities for students based upon what they share with me on their pennants. I keep these pennants in a folder each year. I am a sentimental teacher who loves to keep these memories of my students. I don't have the heart to recycle them. Culture plays an essential role in education and the teaching and learning of STEM. Students' worlds and experiences are all viewed through the lenses of their cultures. Students base their interpretations of experiences on their cultural backgrounds.

I incorporate student cultures throughout the examples we use in class. Some of my students are very interested in sports, especially Syracuse University basketball, football, and lacrosse. I use information about these teams throughout the statistics unit. For example, we compare and analyze the heights of male and female basketball players. I also have posters of mathematician from various cultures on the walls of my classroom. I am also mindful of the variety of cultures

names and use these names in the problems we solve. One goal of mine is to keep mathematics current and relevant to my students' lives and experiences. Ticks and Lyme disease is a major concern in the local community. I developed an entire investigation exploring the deer population and the local deer management system with my students. I have incorporated virtual reality with my students. We went on a VR fieldtrip to Europe exploring geometry in the architecture of various cities. Something I hope to incorporate more of in the future is giving more choices to my students in terms of the activities they engage in. This will further include students' cultures in my classroom.

I apologize that this paper is lengthy. I wanted to convey to you accurately my identity, STEM learning history, and the role of culture in teaching.