I would like to reflect on The Nature of Science. I love teaching science! Thinking back to my schooling, I was a student who hated science. I avoided science classes. In my last year of college, I had to take ALL of my Science courses. I want to kick myself because my professors were so engaging and open to our curiosities that I fell in love with science. I want to instill a curiosity for science in my students, a love of all things science. Now, am I a great science teacher? No, but I do all I can to help my students stay curious about the world around them.

How I address the beliefs of The Nature of Science in my class would be that though I have specific areas of the curriculum I have to teach; I always start by asking the students what they want to know about the unit's focus. For example, I might ask, "What do you wonder about the estuaries that surround your homes and town?" Then, the class brainstorms a list of wonders we have about the estuaries and the plants and animals in the estuaries. After our discussion/brainstorming about what they are curious about, I would provide various resources for them to look through. I would not ask that they take notes or write down any information at this point because I just want them to observe and be curious about what we are going to be learning.

When thinking about the tenets, I would say that I would teach the Scientific Method when I taught fourth grade but would always reinforce that scientists didn't stop after experimenting, collecting their data, and forming their conclusions. Scientists compared their data to other scientists' data and theories and then determined if they needed to continue questioning and experimenting. I would let my students know that many theories and conclusions have a bias in them, so it is important to look at other data and conclusions. It is hard to remove how individuals see the world, and those biases influence conclusions. According to the article ("Tenets of The Nature of Science," 2007-2020), "All observation is preceded by theory and conceptual knowledge. Science tries to overcome this lack of pure objectivity through the scientific community, which scrutinizes scientific work and helps balance individual scientists' leanings."

I love science and teaching it now that I am a teacher. I know there are a few other teachers in my building who also love science and teaching it. We do all we can to integrate science into our curriculum. Outside of that, I feel that science takes a huge back seat in the curriculum at our school. This year was supposed to be a big year for our school before the pandemic because I was supposed to be the STEM teacher. I finally felt that science was going to become important in our curriculum because it always seems to be the subject with Social Studies that seem irrelevant.

I would like to enhance my teaching to address the tenets by teaching Science more. I know I have much to learn about getting students to keep their minds open to all the wonders in our world. I also feel that I need to do better by being aware of social and cultural diversity. According to the article ("Tenets of The Nature of Science," 2007-2020), "All scientific knowledge is produced within a larger society and culture. This means that the social and cultural elements such as politics, economics, power structures, religion and philosophy will affect the science knowledge produced and how it is accepted. This also means that the direction and the products of science will be greatly influenced by the society and the culture in which the science is conducted."

Looking at the Nature of Engineering and seeing how it overlaps with The Nature of Science would improve student achievement. Both also promote creativity and collaboration. According to the article from (National Academy of Engineering and National Research Council, 2009, p. 8), "scientific investigation and engineering design are closely related activities that can be mutually reinforcing. Most curricula include some instances in which this connection is exploited (e.g., using scientific inquiry to generate data that can inform engineering design decisions or using engineering design to provide contextualized opportunities for science learning), but the connection is not systematically emphasized to improve learning in both domains. One option, which was evident in several of the curricula we reviewed, is to use engineering as a pedagogical strategy for science laboratory activities."

Reference List:

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