

Villeg, Vanessa

Nature of Stem

9/27/2022

The primary focus of my “nature of” exploration will be about the Nature of Science. This is an area that needs to be explicitly taught to students in addition to being taught content and practicing science. If students are taught and understand the five tenets of science, they may be more likely to explore and engage in the scientific community.

As an English Language Arts teacher, I do not currently address the tenets of the Nature of Science. I can relate the ideas of the five tenets to how I currently teach. Tenet one is about the tentative nature of science and how we cannot claim absolute truth and how laws and theories may change due to new evidence or interpretation. Tenet two is about the empirical nature of science and how science is based on and derived from observations of the world around us from which interpretations are made. Tenet three is about the inferential, imaginative, and creative nature of science which require inference and interpretation by scientists which leads to tenet four the subjective and theory laden nature of science which acknowledges there are different scientists who all have their own way of interpreting data. Finally, the fifth tenet of science touches on the socially and culturally embedded nature of science that explains how all science is affected by larger society and culture one belongs to. Being aware of these tenets can help me to be a better educator within the current discipline I am teaching in. There is a portion of our curriculum that has our students branch out into argumentative writing. Students need to start off their writing with an introduction to the idea they are arguing and take a stance. If my students borrow from the tenets of science and look at their argument through a lens of understanding that laws and theories may change this may cause the students to use old arguments and newer arguments to support their stance and justify their position on what they may

be arguing. If they are aware that data and information is always changing and that it is influenced by society, they may take a closer look at what is important and how that information changes.

I most definitely can enhance my teaching borrowing from the nature of science. For example, one of my previous units I taught includes this idea that our students are supposed to determine whether or not we have a duty to preserve world wonders for future generations. If culture is not important to a particular group of people, they may argue that it is not that important, but if students are asked to argue whether or not we can preserve world wonders for future generations we can look to science for data and information that argues how world wonders can be preserved. If I were to put a nature of technology lens on this study, I could ask students to understand how these world wonders made life easier for those in Ancient Civilizations and why they were important in their time. That understanding could lead to further inquiry into our world today to determine what are some modern world wonders we have and how are our lives made easier today.

The nature of technology explains features of technological advancements that extend humans' abilities to shape the world for goals ranging from survival needs to aesthetics. Just like the nature of science is always changing and there is no absolute truth, human needs for survival and aesthetic are always changing. As humans grow and advance our needs change. Covid has been a big game changer in our world, as educators, students, and humans living. The need to learn from home due to schools being closed for an indefinite amount of time caused teachers to need to learn how to teach using zoom, screencastify, google classroom, and what not. The tech of the time forced older teachers who may not have been familiar with this type of teaching to catch up with a quickness. A light was being shined on the inequality of some students who could seamlessly transition to this type of learning versus students who may not have access to technology. The human need for connection was temporarily alleviated by the ability to communicate through various social media platforms, but when

students returned to class there was a glaring silence due to a lack of human communication face to face. There is now a focus on SEL learning in the classroom to address the emotional needs of our students as society has emerged from this pandemic. The fifth tenet of science touches on the socially and culturally embedded nature of science. This could overlap with the nature of technology because in the state of NJ, our governor attempted to address this need by attempting to provide technology to every student in the state. The governor of NJ thought education was important while simultaneously needing to follow the science of keeping students at home. Current science is shining a light on the need to address social emotional needs of our students. Our curriculum is being revised to incorporate this type of learning within the classroom. As educators, we are trying our best to interpret this information and do what is best for our students.