

Standards Analysis

When cross-examining multiple standards from different disciplines, it can be difficult to imagine a lesson or assessment that could include all of them. I have discovered through the Endeavor program that if you just break down each standard understand what it is asking the students to understand, it can become possible and some of the best learning experiences stem from this. After examining different standards, I landed on three that I feel like can related to problem solving and the engineering design. They are:

STEL-3E. Analyze how different technological systems often interact with economic, environmental, and social systems.

CCSS.MATH.CONTENT.7.EE.B.4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

All three of the standards mentioned above can all be used in real-world scenarios. For example, you can have the students create a 3-D model of their dream home in their dream location in which they will have to use mathematical expressions and equations to figure out square footage, how their home might affect the ecosystem in that location, and how the different types of technology used to construct houses interact with the environment and the economy. Another way these standards are similar is that they all three can help improve students' cognitive skills and strengthen the student as a whole through three disciplines instead of just focusing on one specific standard.

I believe that cross-curricular standard is a great way to get the students involved through multiple disciplines, but sometimes the standards can be too different to develop a successful lesson plan. The three standards listed above are different by that they all focus on a different

aspect of a lesson. One would have to use different parts of a lesson to cover all three standards. They are also different in a sense that they all want the students to complete a different task in order to master the standard.

In the article “The Engineering Design Method” I thought Professor Elsa Garmire did a wonderful job at breaking down the two main characteristics of the engineering design and that was through compromise and teamwork (or unify) (Garmire, 2003). I think that the engineering design problem solving is a great way to get students to understand multiple standards through problem solving. Problem solving allows kids to be creative, develop critical thinking skills, and to connect it to the real-world and maybe even different careers. I also believe that unifying this concept/skill can allow students to enjoy all different disciplines because each discipline can use problem-solving in its own way. The engineering design problem solving could positively change a schools culture of student learning through unification.