Hello,

I have a few comments in support of adopting the Next Generation Science Standards in the state of Maine. I am a STEM Professional based at Tanglewood 4-H Camp and Learning Center, which is part of the University of Maine Cooperative Extension. I do STEM-themed outreaches and professional development with select classrooms in several schools in Waldo and Knox counties, and in the summer I co-facilitate STEM-based summer camps at these schools. The following comments are based on my direct experience co-developing and facilitating science lessons to correlate with various standards, including NGSS.

The look and feel of classrooms of students who are engaged with NGSS is unmistakable. Students debate, experiment, question, create, struggle, and celebrate successes. There is a climate of empathy, and feedback is encouraged. All students are automatically set up for success.

In a classroom that has adopted NGSS, students are becoming more resilient as they learn skills by utilizing cross-cutting concepts to engage with practices that provide choice in how they access core ideas. This resiliency is enhanced when students from all backgrounds realize they can facilitate positive changes together, working within their communities alongside teachers and mentors on impactful service-learning projects. Through these experiences, students develop a strong background in science practices and content knowledge and come to realize their limitless potential as contributing citizens in the workforce. These students develop a zest for learning as they realize that they are valued because of their science education.

1. The cross-cutting concepts dimension allows students to access content from various angles and perspectives, which both deepens their understanding of content and primes them for engaging in the practices of inquiry and engineering by design. Moreover, as students access science content, their comprehension across other subject areas is enriched; as, they can contextualize and connect ideas in new ways. For instance, a reading passage about a scientific topic might be easier to understand if students already have background in the science topic.

2. The practices dimension sets students up to have authentic experiences and to connect their prior knowledge, unique skill sets, and interests to solve problems of interest either through research, design, service-learning or a combination of those and other applicable practices. In this way, students learn to embrace and express different perspectives and to become discerning digital citizens as they integrate technology literacy into their learning.
3. The core ideas dimension provides scaffolding for creating rubrics, by which students can assess and reflect on their own learning, supporting a metacognitive frame of mind, an essential skill for adults in the workplace.

Science has the potential to inspire, entertain, and fulfill a desire to have authentic experiences tied into the rich histories of Maine’s rural and urban cultures. Using NGSS as the basis for instruction, teachers can help students realize their interests and skills, become critical and discerning thinkers and embrace a climate of inquiry.

Respectfully,

Hannah Raymond

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