

The consensus that our group reached was that the NGSS standards are not widely used among independent schools. The four interviewees were all aware of the NGSS but none of them are using the standards to guide their own science instruction. Each person was skeptical of the NGSS, and while they could see the positive aspects of the standards as well as why the standards have been created, none of them felt compelled to use the standards to improve science instruction within their schools.

Our discussion around the NGSS standards led to a more in-depth discussion of how standards are used within independent schools. Tobias Ayer, the chair of the science department at Salisbury School, said that while he was happy to think about these standards, he was relieved to be working at a school where he did not actually have to deal with them. Tracey McGrath at the Hill School made a similar argument. Independent schools are supposed to put individual students' needs ahead of standards that may not serve individual student needs.

Another item noted in our discussions with our science teachers was the move away from content. It seemed to our cohort that math and science have traditionally been content driven disciplines, and the NGSS standards are trying to move science instruction from being content driven to skills driven. The problem with this, and what many of our upper school instructors are concerned about, is how this shift prepares students for college. For students who will not be attending the Massachusetts Institute of Technology or Cal Tech, the move to more skills-based learning would probably be a positive one. But for the students who are looking to move into very specialized institutions, are they being well served? The answer was not clear, and most

science instructors thought that the outcomes of NGSS-based curricula were not adequate enough to prepare those students for highly specialized study further down the line.

Because the four of us work in the humanities, we believe that it would be most effective for us to look at science instruction through the lens of an academic dean, since it is most likely that we would find ourselves in that position one day. In order to ensure that high level science instruction is occurring at the schools where we work, we would need to have a firm understanding of our constituent basis. What level of science instruction do our students need? What do they want to do in the next step of their academic careers? What is the base level of instruction that we believe our students need to know?

I do not think that we would want to forgo content for skills entirely. The mission statements of our institutions talk about forming a well-educated individual—in order to do that, they cannot just emphasize skills. Students need to know some content. We need to make sure that the future humanities majors know enough about the sciences that they have an understanding of the world that they live in. Those students may not be best served by taking the big three—biology, chemistry and physics. Environmental science, ornithology, astronomy, and ecology would be interesting and stimulating options for students who do not need to know the ins and outs of the three major sciences. Students who do not love science as a discipline may discover a passion, and find a connection to science with these offerings. That would be a positive and important experience for students who are not inclined toward science. Students who love the sciences and want to pursue them at higher levels need to be well served also. The students who want to study at the best technical universities in the U.S. will need to make sure that they have a depth of knowledge that prepares them for success at these universities. Giving them access to highly specialized courses, and perhaps courses where the less capable science

students are not in the same course, would give those gifted science students the opportunity to study their passions without distraction. Being surrounded by an equally inquisitive peer group could not be seen as anything but good. They will be able to pursue their studies at the highest level.