



Connecticut Science Supervisors Association

TO: Connecticut State Board of Education, Dianne R. Wentzell, Commissioner of Education

Cc: *Ellen Cohn, Deputy Commissioner, Isabelina Rodriguez, Chief Academic Officer, Sarah Barzee, Chief Talent Officer, Ajit Gopalakrishnan, Chief Performance Officer, Andy Fleischman, CGA Education Committee Co-Chair, Gail Slossberg, CGA Education Committee Co-Chair*

FROM: Richard Therrien, K-12 Science Supervisor, New Haven Public Schools, Board Member
Connecticut Science Supervisors Association

December 1, 2016

I am contacting you on behalf of myself, and on behalf of the Executive Board of the Connecticut Science Supervisors Association (CSSA). I am currently the K-12 Science Supervisor of New Haven Public Schools. I, my colleagues in CSSA, have been involved in state committees and leadership teams for many years around science education; including volunteering on the NGSS Leadership Team, the District Advisory Council, the Assessment team and many others.

We that ask the Department to be directed to re-emphasize its efforts to support science education, including the adoption and implementation of NGSS standards by districts and the assessments administered by the State Department of Education.

This needs to happen in several areas: *Professional Development, Accountability and reporting, Material support, Assessment development and timing, and Certification.*

Last November, I and several other science educators testified before the State Board of Education to support adoption of the Next Generation Science Standards. I had also previously testified to the Board in February of 2015 to express the urgency of the need for adoption. In both cases, I also brought to the Board's attention the need for support for district implementation of these new standards, including making timely policy decisions about assessment timing and transitions, supporting professional development, finding ways to help districts with costs for new materials, and changing regulations around certification. But most of all, we needed to have a recognition of the importance of science education, especially as compared to other subjects. In November, the then Chief Academic Officer and the Science Consultant assured the Board of their awareness of such needs. Ron Michaels and Jeff Greig, who currently oversee science standards and assessment at the state department have tried to support the subject since those two individuals left last spring, but we need to make sure that all issues are addressed.

Professional Development: It is true that CSDE has partnered with the Connecticut Science Center to support some limited professional development opportunities, some at cost, and some available for free. Districts and organizations such as CSSA and CSTA are helping to provide more professional development for the approximately 3000 secondary and 10,000 elementary science teachers across our state. But to date, the kind of mobilization by the state that we saw with Common Core to provide and support professional development to school building administrators, and non-science leaders at the district level has not happened. NGSS requires significant shifts in



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curriculum, instruction and assessment, and science educators cannot bear the brunt of responsibility to inform building principals and district leaders. Whether through the RESCs, or department officials directly, we need state led professional development for these leaders in order to make sure that the transition is carried out with fidelity at the district level.

Accountability: Our state accountability system includes science scores, currently the grade 5,8 CMT and 10th grade CAPT. These scores count equally as those of mathematics and reading in the Academic Achievement section of the Accountability Index. Yet, this past year, state science scores were not released until after the start of school on Sep 2, a month after SBAC math and reading scores. There was little to no publicity or sense of urgency around these scores. In fact, it wasn't until October 30 that data comparisons amongst districts were released, and the state still hasn't released the full data of all the strands and dimensions as we used to have. This sends a negative message about the importance of science achievement in this state.

Support: One of the most exciting things about these new standards is the way there are strong overlaps with the mathematics and literacy common core practices, especially in areas of using evidence to support conclusions and arguments. We also need to make sure that all students, including those from urban centers, have the basic hands on experiences they need to understand science concepts and practice those skills, especially at the elementary level. This means that we have to make sure that schools have the time, support and materials they need to do so. This has to be through policies as well as support, either through grants such as Priority Schools and Alliance Districts or others. Yet, the Alliance grant given to the most needy districts still asks them to focus on implementation of Common Core math and reading standards with no mention of science standards. Making NGSS a part of grant foci would help districts realize that state is serious about holding districts accountable, and allow them to use funds for needed science implementation.

High School: Probably the most urgent matter involves the timing of the high school science assessment. As you know, we currently have a science assessment in 10th grade, matching our current two-year science standards. This board adopted NGSS, which includes 3 years of high school science standards, including several topics not in our current standards. According to the state department, the test will shift from current standards to NGSS standards in a low stakes test in 2019, but stay in tenth grade. The decision to keep the test in tenth grade was made last spring with very little input from districts. This is next year's high school freshmen, and districts have yet no guidance on which 2/3 of the NGSS standards those students will be expected to master before the state testing. Even if a decision is made soon, it leaves very little time to write and adopt new curriculum. Of course, because the state graduation standards are scheduled to change to 3 years of science for the class of 2021, and because the Board adopted three years of NGSS standards, most districts were expecting the science test to shift to 11th grade by 2020, just as the state test for math and reading has. We strongly urge the science test be moved to 11th grade, and designed to cover the three years of NGSS standards. Not only will this allow our students to compete with



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those from other states, it will allow districts to have the flexibility to design course sequences to best fit their needs and implement NGSS with fidelity. This should be on the State Department of Education’s legislative priority agenda if legislation is needed to finalize that decision and we urge the State Board of Education to support that.

Certification: We also would strongly urge the State Department of Education to begin examining certification requirements. Adoption of NGSS brings serious issues with certification: because the new high school science standards will require significant increases in the amount of earth science and physics topics required of every student, this means we may need to adjust course sequences. If we don’t have some changes to certification in terms of cross endorsement requirements, we will have to modify our teaching staff. To be frank, finding qualified physics and earth science certified teachers will continue to be near to impossible for a district like New Haven. There are alternate route programs, such as ARC, DSAP, and Teach for America supported by legislation, but issues remain. For example, this summer the state department made a decision that the long standing science crosswalk deciding which science courses each of the 5 science certification areas could teach did not apply to these alternate route candidates in their first year, limiting courses they could be hired for and exacerbating our shortage area issues.

It is understood that some of these issues in transitioning to NGSS will require legislative approval, and that in times of financial difficulty there are limitations to what the state can do. I referred last year to the 2008 position statement by the State Board of Education that talked about all students needing opportunities in science instruction, and the need for increased emphasis for the state to prepare students for STEM careers of the futures. I will repeat again that for the twenty two thousand students in the New Haven Public Schools and all those across the state, science education is not an elective or supplemental subject, it is a fundamental right. Connecticut can send a strong message about the importance of science education and its role in preparing Connecticut students for their future by making sure these issues are addressed immediately.

Sincerely,

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