

TESTIMONY RE SB 24, Victoria Chaudhuri, re: Accountability and Science/STEM

TO: Education Committee Clerk: Chris Calabrese chris.calabrese@cga.ct.gov

TESTIMONY In Regards to SB 24 AN ACT CONCERNING EDUCATIONAL COMPETITIVENESS.

Feb 22, 2012

RE: Accountability Measures/Alignment with NCLB Waiver, use of Science, Section 50 concerns

From: Victoria Chaudhuri, K-12 Supervisor of Science and Technology Education
Home: 36 Old Village Lane, Unionville, CT

Rep. Fleischmann, Sen. Stillman, and Education Committee Members:

Please accept this testimony in support of the general goals of Senate Bill 24. I speak as an individual who has been concerned with the education of Connecticut students for 20 years. I have worked in several school systems as a teacher and administrator, and currently serve as K-12 Science and Technology Education Supervisor for Waterbury Public Schools. I am in contact with science educators around the state, as well as community, industry, business and higher education colleagues who share many of the same concerns.

In Summary:

Senate Bill 24 continually refers to the use of reading and math scores under NCLB as the measure of accountability and performance for districts, schools and teachers. This is inconsistent with the proposed Connecticut State Department of Education's application for the waiver of Annual Yearly Progress under NCLB, Title I provisions.

-The bill should be made consistent with the CSDE's plan to include science (and writing) as an important measure of performance and accountability

-The bill should emphasize use of growth measures rather than absolute performance.

-For high schools, science and other subjects should be included along with other measures of college/career readiness.

-Inclusion of science/STEM is important to Connecticut jobs, college/career readiness and possibility for future funding (Race to The Top).

Section 50 concerns

-In Section 50, although science specialists are mentioned, the plan for low performing elementary/middle schools to have a prescribed ninety minute mathematics block and a two hour literacy block will unduly constrain the ability of these schools to adequately address science. The plans should include science, and time blocks should be subject to approval, rather than defined in law.

Keep in mind, that in grades 7 and 8, students must be taught subjects by a certified, highly qualified subject teacher - reading teachers aren't allowed to teach science, science teachers aren't allowed to teach reading. These time blocks would be almost unachievable in most middle schools, given certification and scheduling.

References to AYP

SB 24: Lines 565-660, 711-719, 1761-1765, 2058-2065,2109-2124, 4107-4151 (Section 50) of the bill all refer to using the old measure of accountability (CMT reading/math absolute scores).

Importance of Science/STEM

As the K-12 Supervisor of Science and Technology Education for the Waterbury Public Schools, I strongly support the inclusion of science as an accountability piece in Connecticut's education reform. We know that it is critically important for teachers, schools and districts to focus on important science concepts and practices starting at an early age. It is especially important in urban populations, since those students need science as a crucial part of their education. The skills and experiences they have in elementary and middle school will better prepare them for studies in Science, Technology, Engineering and Mathematics at high school and beyond. Since we know that the majority of jobs and careers in Connecticut will require these crucial STEM and 21st Century skills, it is vital that our schools focus on making sure students are ready for their future.

Connecticut has already adopted increased STEM graduation requirements, as has our Connecticut State University System. With the soon to be released Next Generation National Science Standards, we need to make sure that all schools and teachers are preparing all students at all levels in science, as well as related fields such as engineering. I would further encourage that Connecticut include a plan to further connect Career and Technical education with science, since Career education should be for all students and encompass all disciplines, and we know that science and technical education will be closely related in future jobs and careers. Along with this connection should be strong support for the Carl D. Perkins Grant which funds the majority of Career and Technology Education state-wide. The cuts to the Perkins Grant that have occurred at the national level have seriously affected the ability of Connecticut schools and colleges to offer career, technology and engineering education. I would also recommend that the state look at making sure that teacher evaluation in elementary schools not be solely based in reading and/or math, but also include student learning measures in science, technology and engineering, for it is important for teachers and schools to focus on these skills. The adoption of the NGSS may also include some changes to practices in certification, alignment and instruction. I would recommend the support of the work of the science leadership team referred to on pg. 10 Section 1 in the Connecticut waiver application.

Placing STEM/Science as part of the accountability measures would also better position Connecticut for future funds, such as in Race to the Top.

See: <http://www.whitehouse.gov/the-press-office/2012/02/07/president-obama-host-white-house-science-fair> where it indicates:

" The President strongly believes that systemic reform at the state and district level will be critical to our success in improving STEM education and providing for excellent STEM teaching... To ensure that STEM remains a component of systemic education reform, the Department of Education will again include a focus on STEM criteria in the upcoming Race to the Top competition."

CSDE Title I NCLB Waiver Application language

Perhaps the language on accountability/performance measures should refer to the state plan, or be subject to approval by the State Board of Education, rather than being defined in CT Law.

Here is a description of what the Connecticut State Department of Education draft waiver application says about the use of science, and the accountability system:

http://www.sde.ct.gov/sde/lib/sde/pdf/nclb/waiver/esea_flexibility_request_p2.pdf

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"Connecticut's new system also will hold schools accountable for science, which is tested in Grades 5, 8 and 10. This is an important shift that raises expectations for Connecticut students. We recognize the strong relationship between mathematics and science and the potential through strong STEM (science, technology, engineering and mathematics) programs to nurture students' ability to reason analytically and apply knowledge to solve complex problems of all types. We are in full agreement with the Board on Science Education within the National Academy of Sciences that "science, engineering, and technology permeate every aspect of modern life... and some knowledge of science and engineering is required to understand and participate in many major public policy issues of today, as well as to make informed everyday decisions."

pg. 9 describes the weighting of science (essentially 1/3 that of math, reading for K-8 schools, equal for high schools), and on page 15 for districts.

pg 12 describes the use of vertical scales in reading and math for K-8 students only.

In short, please make sure the bill is aligned with the CSDE plan, allow for flexibility in low performing schools, and make sure science is included, for the good of our students and state!

Thank You,
Victoria Chaudhuri

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