

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

Testimony regarding SB 24, *An Act Concerning Educational Competitiveness*, February 22, 2012

RE: Science -- Accountability Benchmarks and Performance Management / Support Plans

From: John Settlage, Professor of Education, University of Connecticut, Storrs, CT

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Representative Fleischmann, Senator Stillman, and Education Committee Members:

I write to you as a professional educator, first as a high school science teacher, and now as a teacher educator and education researcher. My responsibilities at the University of Connecticut's School of Education provide opportunities to prepare future science teachers, to visit Connecticut classrooms as science is taught, and to interact with administrators regarding their science programs. For the past four years, I have been researching science test scores (CMT and CAPT) to uncover explanations for the considerable variation in science performance among Connecticut schoolchildren. As an academic, I am curious to understand what has caused Connecticut to have such large science achievement gaps. As a citizen and teacher educator, I am driven by the possibility that I might contribute my expertise and skills in ways that reduce these gaps.

There is a great need to include science within the bill's accountability benchmarks and performance management. Even though science is one component of the annual CMTs, there is not sufficient incentive to ensure that every child in Connecticut receives quality science instruction. If science is NOT added to reading and math in the accountability benchmarks, then there is little hope for closing the science achievement gap. Making schools accountable for science test scores is a necessary step for improving the educational system in our state. In contrast, if schools and administrators are not held accountable for science scores, then SB 24 will have missed a very important opportunity to help our schoolchildren.

Key Points:

1. School administrators translate policy into practice. By not holding schools accountable for CMT Science performance, principals are acting rationally by NOT insisting that every child in their school is taught science.
2. Science will be taught in direct proportion to the amount of emphasis it is given by the State. An automatic benefit of including science (along with reading and math) in the accountability benchmarks would be schools increasing the quality and quantity of science instruction.
3. Standardized tests occasionally create some undesirable consequences (e.g., the cheating scandal in one Waterbury school). Except for those unfortunate and rare events, knowing there are accountability measures will promote greater science teaching and thereby move us closer to eliminating our state's science achievement gaps.

Need to Increase Science Emphasis via Accountability Benchmarks, Performance Management and Support Plans

I believe it is accurate to characterize principals and district administrators as diligent civil servants who manage a wealth of competing demands. Until science in our elementary and middle schools made a priority, each principal will make his or her own decisions about whether to encourage the teaching of science. From my research, I have found that principals who see science as valuable to their students are

able to provide conditions where the subject is taught. Unfortunately, not all principals feel confident with being science leaders. The victims are the students attending those principals' schools because they never receive science instruction. At all. If SB 24 would add science to reading and math in the accountability benchmarks, this situation would change for the better. Every Connecticut child would learn about science and not just those who attend schools where principals view science as a priority.

School principals are receiving conflicting messages from the State. On the one hand, the fifth and eighth graders are tested on the Science CMT. On the other hand, there is no accountability to the schools for science results. Given all that they are asked to do, we have to appreciate a principal's rationale for not pushing science too hard. The State leaves it to principals to decide how much to emphasize science. In terms of costs and benefits, the selfish principal pays no price if students at his or her school do not do well on the science CMT. Simply by including science in SB 24's Accountability Benchmarks and Performance Management Plans, the ambiguity about science will disappear. Sending a clear signal to principals that they are to expect their teachers to deliver science so children can learn will make a huge difference in Connecticut's school.

As a science educator, I am very alert to the presence or absence of science in official materials. I found science mentioned only once in SB 24 in the context of science specialists for schools not meeting accountability benchmarks. I fully endorse this recommendation except for the fact that no school is currently accountable for its science test results. My impression is that the authors of SB 24 recognize the power and utility of science specialists, especially in a struggling school. What is missing from this admirable plan is giving sufficient emphasis to science test accountability.

There are shortcomings with any standardized test – costs, efficiency, and the likelihood of cheating. While no test is perfect, not testing in science or testing without any accountability places Connecticut students in a precarious position. I have had the chance to examine our Science CMT and feel it does an effective job of measuring children's progress toward scientific literacy. Even if some teachers do try to teach to the test, at least that would mean their students receive some science instead of none. Especially in high need schools with which I am familiar, many principals encourage math and reading to push science to one side. Far too many Connecticut students are not being taught ANY science until they reach their first high school science class. I hope you would recognize how including science in the accountability benchmarks would make a big difference in the lives of our students.

Sincerely and respectfully,



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