



Richard Therrien

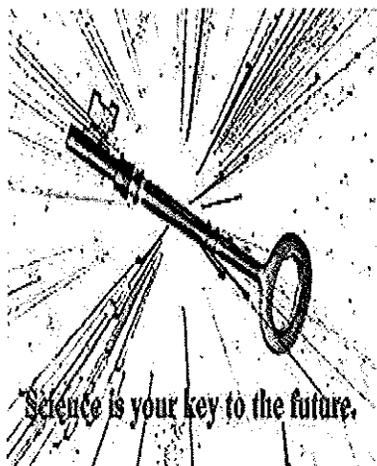
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TO: Committee on Education

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**Senate Bill No. 944, A Plan for Academic and Personal Success
for Every Middle and High School Student**

As Science Supervisor for one of the largest Connecticut Districts, I would like to offer input into the proposed Secondary School Reform Legislation. I have been a science educator in Connecticut for 23 years. I have taught middle school, high school and served on a variety of state committees on science education, including President of CT Science Teachers Association. I support the goals of the proposal to reform secondary education, but have concerns about the plan and its implementation.

One of my concerns is the impact on our current curriculum and initiatives. As you know, the state revised the science curriculum frameworks in 2004/2005, and in 2007/2008 the CAPT and science CMT began to reflect those new frameworks. Districts such as New Haven have adopted those new curriculum standards, but it takes time, supplies, and training to adapt. The current standards have an exciting and relevant impact on science education; they emphasize the science, technology and society issues that all students need, and they emphasize inquiry learning and skills that will carry them to the future.

The CAPT science test currently given in 10th grade tests five major strands. In New Haven, three of those are taught in our ninth grade course Integrated Phy/Chem which has components of environmental chemistry and physics, and teaches students to learn about and make decisions about issues such as plastics in the environment, groundwater pollution, energy resources and climate change. Our current Biology course emphasizes 21st century biological issues such as biotechnology, genetically modified foods, disease impact on populations, and evolution. In New Haven, we also currently require three years of science, and 95% of our students take Chemistry as the third course. This course is considered to be a gateway to future science learning, just as Algebra I is for math, but we also make the course accessible and relevant to all students, and are in the process of revising the curriculum so all students meet with success.

There is still a strong need to offer more focused science and technology courses that meet the needs of students who may not be majoring in science in college, but still need these skills and content to be successful in life. This is one of the reasons we are developing an engineering magnet school to meet those needs, as we have done with our very successful medical careers magnet school. We are trying to

tie together some of our technology education offerings and science, but remain constrained by curriculum guidelines and teacher certification issues.

The approach taken in the Plan seems to focus on very traditional college prep science courses and sequences, and ignores some of the cross-disciplinary standards and skills that are just now starting to be implemented. Because the Plan keeps the CAPT test while adding end of course exams, I am concerned that our teachers and students will be forced to try to meet two different sets of standards. By selecting Biology as the end of course exam, which is typically the year students take the CAPT test, the Plan ignores the very worthwhile current ninth grade standards, and does not address the need for physical and earth science curriculum that is innovative, integrated with vocational and technical education, and addresses the needs of all students. We have a very successful magnet school, the Sound School, which offers programs in vocational agriculture and vocational aquaculture that would be further constrained by the requirements of the plan.

Because the Plan requires more math, science, and technology, its adoption will also require more science/math/technology teachers and more space, equipment, and supplies. For this to succeed, we need teachers that can teach multiple disciplines, and be able to make these subjects relevant to all students. We need support in the form of grants and funding to equip those teachers with the tools they need.

The goal of the Plan should not simply to prepare more students to become science/math majors in four-year colleges. In fact, we know that some of the fastest growing occupations are for technicians in areas such as health and green technologies.

I would encourage the Legislature to require that the implementation and piloting of the Plan require addressing these issues: coordination with the CAPT test and frameworks, requiring a modification to the science/technology sequences, offering alternatives to the traditional college prep sequences, and support for the implementation.

We need curriculum and teachers that can prepare all our students for the future.

Thank you.

Richard Therrien