

Testimony of Marianne Maloney, J.D.

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Raised Bill #1129:

AN ACT CONCERNING VARIOUS INITIATIVES TO PROMOTE COMPUTER SCIENCE AND TECHNICAL TALENT IN EDUCATION.

FINANCE, REVENUE AND BONDING COMMITTEE

April 29, 2019

Members of the Finance, Revenue and Bonding Committee:

No one is arguing against including Computer Science, specifically Computer Programming in a menu of offerings under the new distributive credit guidelines. I do, however, have two principal and several secondary concerns.

The first is capacity. Some districts will be able to hire qualified personnel and move forward with this initiative immediately. New Haven is not among those financially blessed communities. Under recent budget cutbacks, New Haven has eliminated school nurses, school social workers, guidance counselors and librarians, all of whom we perceive as essential personnel. We have another round of layoffs coming this summer. We do not have extra personnel on staff to deliver additional curriculum; our current teachers are teaching full schedules of full classes. In order to hire qualified personnel to address new course offerings, we would need to sacrifice additional classroom teachers whose students cannot be absorbed into alternate already full classrooms. Some suggestion has been made that existing teachers be offered computer programming training on a volunteer or mandatory basis. Urban teachers are far more in need of additional training in trauma effects, classroom management, cultural awareness, bilingual/SPED than they are of computer programming! We are unable to attract an adequate number of substitutes to meet our normal need; who would cover these classrooms while the training was going on. New Haven would need to cover fifty schools; that would more than double the number of layoffs currently anticipated.

What is the anticipated outcome of this experiment? I am aware that the NSF has produced research to show that there is measurable transfer from learning one computer language to another computer language. Anticipated (significant) transfer to other areas of the curriculum has not been shown. I am a lifelong Math teacher and a PIMMS fellow. I was initially trained in FORTRAN to program and operate my university's first computers. I studied Basic, C⁺⁺, and Maple under subsequent NSF Fellowships. In thirty-nine years of teaching, I have never had cause to refer to or to use, directly or indirectly, any computer programming or logic, except to program graphing calculators, and my students had no difficulty becoming proficient in that capacity with no programming experience at all. What useful expertise do you imagine our students will take away from survey courses in programming in high school which they would be unable to pursue until years later?

Another serious fiscal consideration is the availability of hardware/software. Many of our New Haven schools, at all levels, lack an adequate supply of calculators, let alone Chromebooks or computers to

service their populations. We anticipate that situation will only worsen as budget constraints continue and tech equipment can be neither repaired nor replaced. Are we to teach programming at all levels without computer access? What would be the point?

I have heard it argued that our current curriculum offerings are obsolete and could be dropped in favor of computer programming. I argue that recycling (Chemistry), global warming (Environmental Science), anatomy, physiology and nutrition (Biology) will have far greater impact on the lives of the average citizen than computer programming. There is also the inescapable fact that no one can major in Computer Science without four years of high school math, including Precalculus. The danger of expanding district STEM offerings in this way is that students may graduate from high school without the necessary prerequisites to pursue computer science, even if their interest has been piqued. And they may be inadequately prepared to manage their own lives effectively.

Computer programming is not an appropriate mandatory graduation requirement for high school students. Our tax dollars would be far better spent in supporting grant programs for COLLEGE Computer Science majors who make a commitment to sacrifice several years of lucrative computer science employment to serve in public schools at a teacher's starting salary. Quite frankly, I am hard pressed to imagine what else would induce a qualified computer science graduate to do so.

Thank you for your time and attention to this matter.