



RESPONSE TO: RAISED BILL NO. 1129, “AN ACT CONCERNING VARIOUS INITIATIVES TO PROMOTE COMPUTER SCIENCE AND TECHNICAL TALENT IN EDUCATION.”

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Chairmen Fonfara and Rojas, Ranking Members Witkos and Davis, and honorable members of the Finance, Revenue and Bonding Committee: my name is Shannon Marimón, I’m the executive director of the Connecticut Council for Education Reform (CCER) and a resident of West Hartford. My testimony today is largely in support of **Raised Bill No. 1129: “AN ACT CONCERNING VARIOUS INITIATIVES TO PROMOTE COMPUTER SCIENCE AND TECHNICAL TALENT IN EDUCATION,”** with the caveat that this body is urged to work into the legislation two ideas to strengthen its impact: first, to provide assurances that all elements of computer science education and career connected learning opportunities are offered with an eye towards equity, with an emphasis on providing access to low-income, minority students; and secondly, that any proposed state-level talent development strategy include stakeholders beyond higher education, inclusive of public K-12 education.

As evidenced by the text of Raised Bill 1129, this committee clearly understands the depth of need for computer science talent in Connecticut. Additionally, by virtue of Sec. 1(e), the committee also understands that for any computer science curriculum to be most valuable it must be made relevant and, accordingly, this legislation requires that computer science be taught both as a stand-alone course as well as embedded within other classes. This is the right approach. Research promisingly suggests that this two-prong approach will foster computational thinking skills in Connecticut public school graduates and position them for success in STEM fields. It should be noted that House Bills 7082 and 7083 make reference to the development of a model K-8 curriculum. We would suggest that Section 1(e) be aligned with this effort so that the State Board of Education/Department of Education be most efficient and coherent in the design and writing of any new curriculum.

One concern we have is ensuring this legislation extends its benefits -- inclusive not just of overall learning but also, in the long term, student loan forgiveness and income tax credits -- to low-income, minority populations. Minority communities have not been well represented in computer science education. According to the National Science Foundation, in 2013, although

36.4 percent of the United States citizens identified as non-white, only about 18 percent of all bachelor's degrees in computer science in the U.S. were earned by non-white students.¹² There is no data to suggest any change in this delta. Earlier this year, at the K-12 level, Code.org reported that Title I schools -- which receive extra funding based on the number of students from low-income, often minority backgrounds -- are *less likely* to teach computer science than schools not receiving additional funding: 35% of the better-funded Title I schools offered computer science, but 41% of non-Title I schools offered computer science. And, again, those schools have more funding.

A Cornell University computer science professor has posited that a large part of the problem with attracting minority students into computer science programs has to do, quite simply, with awareness.³ Adding language to Raised Bill 1129 to require a public awareness campaign will allow Connecticut to tap into an as-yet-unrealized talent pool. In doing so, the strategic aims of the law can be better achieved, and traditionally underserved populations can be better positioned for making both individual and community economic strides. Indeed, where the Connecticut Department of Labor forecasts 15,000 new computer-related jobs over the next decade,⁴ it would behoove Connecticut to engage in a public awareness campaign as soon as possible.

Regarding Sec. 12 of the bill and the proposed Chief Talent Strategy Officer, we generally support this structure but suggest that an advisory board that prioritizes statewide talent management efforts should not be limited to leaders from higher education and corporate leadership. Instead, Sec. 12(5) should be expanded to include stakeholders from a broad range of areas, inclusive of K-12 public education. Doing so will carve a real pathway to developing and delivering meaningful career-connected learning -- learning that will position Connecticut public students as part of an overall statewide "talent ready" schematic. We also recommend that the Computer Science for Connecticut Commission established in Section 9 works not only in conjunction with the Department of Economic and Community Development, but also with all relevant state agencies pertaining to the education space, particularly the Department of Education since so much of the Commission's charge involves our public schools. We propose that the Commission directly interface with any broader current or future talent strategy efforts; it would be helpful if this connection was made explicit in the legislative language.

Overall, this legislation will help Connecticut capitalize on a huge opportunity; demand for Connecticut employees with computer-science skills is high; in fact, the demand is nearly three times the national rate⁵. It is right for our citizens and our communities. Thank you for the opportunity to submit this testimony today. I would be happy to discuss this legislation further at any time.

¹ https://wayback.archive-it.org/5902/20160211081202/http://www.nsf.gov/statistics/wmpd/2013/pdf/nsf13304_digest.pdf

² <https://twitter.com/codeorg/status/1120358082549149696>

³ <https://www.computerscienceonline.org/resources-for-minority-students-in-computer-science/>

⁴ <http://www.hartfordbusiness.com/article/20190218/PRINTEDITION/302149962>

⁵ <https://code.org/promote/ct>

About the Connecticut Council for Education Reform (CCER)

The Connecticut Council for Education Reform (CCER) advocates for Pre-K-12 education policies and practices that narrow achievement gaps so all Connecticut students can access and succeed within a 21st-century education system. We do this by collaborating with educators, employers, and community members across the state.

We are guided by the belief that schools must prepare all students to become thriving citizens and professionals, and we are committed to recruiting, preparing, and supporting educators to deliver on that promise. We consider how enacting one set of policies/actions makes realizing other policies/actions more possible and meaningful. Our priorities assume examples of positive growth and outcomes exist in some schools and districts, and that the state's role is to understand how certain schools and districts working with historically underserved students are closing achievement gaps while others are not. We are attempting to study, learn from, optimize, and most importantly—scale—what's already been proven to have impact. Our recommendations focus on optimizing present resources rather than seeking new funding sources.