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April 29, 2019

Senator John W. Fonfara, Co-Chair
Representative Jason Rojas, Co-Chair
Senator Kevin Witkos, Ranking Member
Representative Christopher Davis, Ranking Member
Finance, Revenue and Bonding Committee
Legislative Office Building, Room 3100
300 Capital Avenue
Hartford, CT 06106

Regarding Raised Bill No. 1129: An Act Concerning Various Initiatives to Promote Computer Science and Technical Talent in Education.

Distinguished Leaders:

I am Norman Sondheimer, a retired computer scientist, the leader of the Computer Science for Connecticut initiative of the Connecticut Chapter of the Computer Science Teachers Association and a member of the State Department of Education Computer Science Advisory Committee.

Our Initiative supports Raised Bill No. 1129. We would like to thank you for raising a bill that will help make computer science education a priority in Connecticut schools. We state as evidence for the necessity of this step the fact that in 2015 you passed a bill requiring schools to teach “computer programming instruction” by the 2016-17 school year. Yet in 2017-18, only about one half of our high schools offered such a course. It appears that that law failed to take the steps necessary to realize your goals. Your proposed new law will help dramatically. Our students and our economy deserve no less.

That said please consider these points, the first of which is a side effect to avoid:

1. Planning for the 2020-2021 school year begins in school districts in the Fall of this year. In previous sessions, you created structures that allows some the work of the new Computer Science for Connecticut Commission to be carried out. If the new law is interpreted as controlling all computer science education development of the type enumerated, it will naturally add delays that will force all efforts to miss the planning window for the 2020-2021 school year. We request you avoid this by not hindering efforts currently planned.
2. In the following language, you elaborate what must be included to satisfy the requirement to teach of computer science:
26 ... (ii) not later than July 1, 2021,
27 instruction in the basics of computer science at the elementary school
28 level, (II) instruction in exploratory computer science at the middle
30 school level, and (III) at least one course in computer science at the
30 high school level; ...

This language is largely unnecessary. This material is essentially covered by the Computer Science Standards adopted by the State Board of Education. However, we recommend moving it to elsewhere in the bill. There is no goals or objectives set for the Computer Science for Connecticut Commission. This text would make an excellent summary of its nonexclusive goals for K-12 computer science education.

3. We have two concerns on this text:

75 (e) The State Board of Education shall establish a state-wide digital
76 literacy and computer coding curriculum for all public schools. Such
77 curriculum shall include, but not be limited to, development of sample
78 lessons ...

We hope you do not mean "establish" in the sense of the State Department of Education "creating" the curriculum. This work is an unnecessary and expensive since excellent material is already available. The SDE should instead "identify" appropriate curriculum material.

It is also unclear whether you mean the curriculum establishment to be a one-time exercise or reconsidered regularly. You should keep in mind that teaching material for computer science is continuously evolving. We prefer a one-time effort.

4. In order to not require students currently in a teacher preparation program to have additional graduation requirements added to their program thereby delaying their graduation unfairly, please move out the date on which the law takes effect:

87 (d) On and after July 1, [1998] 2019, any [candidate in a] program of
88 teacher preparation leading to professional certification shall [complete
89 a] include, as part of the curriculum, instruction in computer science,
90 and other information technology skills, [component of such program,]
91 as applied to student learning and classroom instruction,
92 communications, [and] data management, programming and coding.

5. The Computer Science for Connecticut Commission established in Section 9 needs to have broad membership including, in particular, private industry. You have language to that effect for the Board advising the Chief Talent Officer that should serve as a model:

460 (5) Create a state-wide advisory board comprised of leaders from
461 the institutions of higher education in the state and chief executive
462 officers from companies domiciled in the state.

Thank you again for your attention to this important topic.

Yours truly,

Norman Sondheimer, Ph.D.