

Good morning, Chair Elkin, vice chair Beard and members of the Senate Education Committee, for the record my name is Mike Lefor and I serve District 37 – Dickinson in the House of Representatives. I bring House Bill 1398 for your consideration.

The Superintendent of public instruction convened a taskforce to determine the best way forward to integrate Computer Science and Cybersecurity instruction into all ND Schools. The task force consisted of representatives from workforce, ND legislators, school superintendents, principals from large and small districts (high school, middle, and elementary schools), school board members, family members and students.

HB 1398 requires each school board to develop a plan which works for them. Plans would have to be developed no later than July 1, 2024.

Unanimous consensus was reached among the group that Computer Science and Cybersecurity has become foundational knowledge for all K12 students regardless of the occupation they pursue. The ultimate result of this work is HB 1398.

I will describe the provisions of HB 1398, which are based on the recommendations of the task force I described a moment ago and individual one-on-one work done by the Superintendent with various school leaders across the state to fulfill the duty that was added to 15.1-02-04.

Section 1 of the bill requires Elementary and Middle Schools to provide instruction in computer science and cybersecurity. This means any school, in order for it to be approved to operate in ND, must make available computer science and cybersecurity instruction. This is the same section that requires that schools provide instruction in math, reading, social studies, health, phy ed, etc. If a school cannot find a teacher to offer any of these classes, they typically turn to the ND Center for Distance Education (CDE) to provide instruction so the school can continue to operate. The North Dakota Center for Distance Education has confirmed that they will provide the staffing to offer these courses for schools that need them. I believe the Director of CDE will be testifying today.

Section one of the bill also requires elementary and middle schools to develop a computer science and cybersecurity integration plan to ensure introduction to foundational computer science and cybersecurity knowledge. These integration plans are approved by each local school board to ensure that each district has the flexibility to develop a plan that fits into their unique situations. Plans would have to be developed and approved by local school boards no later than July 1, 2024.

Section 2 of the bill requires high schools to make available one unit (credit) of either computer science or cybersecurity. Again, in order for a school to be approved to operate in ND, it must make available a computer science and cyber security course. This is the same section that requires that high schools provide courses in algebra, biology, and electives such as music, foreign language, etc. The North Dakota Center for Distance Education has confirmed that they will provide the staffing to offer these courses for schools that need them. This section also requires high schools to develop a computer science and cybersecurity integration plan to ensure introduction to foundational computer science and cybersecurity knowledge. These integration

Finally, I will talk a little bit about where North Dakota students regarding computer science and cybersecurity.

North Dakota is already falling behind other states and other countries who have taken seriously the need to have students cyber educated. 27 States require all high schools offer CS classes, but North Dakota does not. 12 states require access for all K-12 students, but ND does not. 33 states have dedicated funding for computer science and cybersecurity instruction in schools, but North Dakota does not. In early 2022, the European Commission's Joint Research Centre (JRC) released *Reviewing Computational Thinking In Compulsory Education*. Of the 29 European countries included in the study, 25 countries have basic computer science concepts in their mandatory curriculum, with 17 countries making it mandatory in both primary and secondary schools.

Even though DPI has been providing no-cost training, resources and support to incentive our schools for several years only 76 high schools in North Dakota (about 44%) offer a foundational computer science course. This is well below the national average. The schools offering computer science are the larger school districts, putting our rural students at a significant disadvantage. (Ref- Computer Science Access Report Data Code.org).

In ND, 32.9% of unemployed individuals lack foundational digital skills, meaning that they can't compete for 72.7% of the open jobs in the state. Although all our most in-demand jobs require at least a basic digital skillset, there are currently 1,389 open computing jobs in the state of North Dakota. (Ref- Promote Computer Science Code.org and Digital Equity Scorecard digitalinclusion.org).

The 21st Century workforce needs 21st century skills. To ensure North Dakota remains competitive in national and international markets, we need every adult worker, jobseeker, and student graduating with at least basic knowledge of computers and how modern systems communicate, even if they are not going to specialize in a cyber career. We can't expect students to start at the high school level; we need computer science and cybersecurity courses at elementary and middle school levels as well. For example, math skills are important, so we don't start teaching math at high school level, we begin education in math concepts in elementary and middle school.

In addition to the 27 states that require high school courses, and the states that require it in all grades, currently five states require computer science for graduation, and that number is growing. State legislatures across the U.S. are enacting laws to make this a requirement.

For those who wonder how this aligns to the established mission of the PK12 Strategic Vision of North Dakota Education, the answer is simple: We cannot ensure that "All students will graduate Choice Ready, with knowledge, skills, and disposition to be successful" without it.

North Dakota cannot afford to let another year pass without ensuring our students remain competitive.

During the 2021 special session HB 1507 created a new duty to the department as follows: The superintendent shall collaborate with workforce development stakeholders and the kindergarten