Thank you, Chair Senator Feldman, Vice Chair Senator Kagan, and members of the Education, Energy, and Environment Committee for the opportunity to support Senate Bill 980. My name is Tim Dixon. I am a consultant for Maryland Center for Computer Education and a former elementary teacher in Prince George's County for 28 years. I've worked with diverse groups of students including English Language Learners, special needs students alongside general educational students during my teaching career.

Honorable legislators, ensuring all our students are prepared for the 21st century workplace and society is of utmost importance. This includes our English language learners. By incorporating computational thinking and computer science into their curriculum, we equip these students with critical skills for success, regardless of their future profession.

Computer science develops vital computational and critical thinking abilities that translate across disciplines. Students learn to break down complex problems, analyze data logically, and create solutions - competencies coveted by employers. This fundamental knowledge about how technology works empowers students to become creators and innovators, not just consumers of tech.

Moreover, the practices of computational thinking parallel those required for English language development. Both emphasize problem-solving, logical thinking, collaboration, and communication. As students code programs and debug errors, they apply many of the same cognitive skills needed to analyze texts and express ideas clearly.

For English learners specifically, visually-engaging coding platforms present opportunities to develop language proficiency without being constrained by current reading/writing levels. They gain confidence tackling complex challenges through a modality that reduces linguistic barriers. Students with IEPs also benefit from the same links to speech, functional routines, as well as academic goals like sequencing and numeracy in a more creative setting. Students can have cybersecurity or IT as a transition goal on their IEP when they demonstrate the skill at home but do not have the opportunity to demonstrate it at school.

By prioritizing these concepts from an early age, we prepare a future-ready workforce and citizenry equipped with the literacies of the modern world. I urge you to support computer science and computational thinking education for all our students, including English language learners. Their success is pivotal to Maryland's thriving in our technological age.

Research has shown that elementary school students who experience coding, computational thinking and other computer science instruction increase their executive function skills(Self-regulation of cognitive processes) and collaboration skills. Our English learners' access to CS is limited compared to their monolingual peers because of their emerging English. There is a great need for teacher training on how to embed linguistic supports that can bridge the language of computer science and its concepts for them. "

We have already made inroads into county curriculums such as Prince George's County including computer science in their middle school English Language Learners middle school curriculum and Loyola and other colleges including computer science in their elementary pre-service courses. We are currently meeting with educators from across the country who also integrate computer science and computational thinking into their English Language Learners instruction to develop "Best Practices" for Maryland.

Senate Bill 980 would help provide the resources to expand our efforts to better support the nearly 60,000 Elementary English Language Learner students in Maryland.

Should I include research on [Executive Function](#)? [Cognitive Skills](#) [Challenges to Teaching English Language Learners computer science](#) when I upload the document before the oral testimony?