SB 979

Department of Legislative Services

Maryland General Assembly
2024 Session

FISCAL AND POLICY NOTE
First Reader

Senate Bill 979 (Senator Hester)
Education, Energy, and the Environment

Education - Artificial Intelligence - Guidelines and Pilot Program

This bill establishes various new responsibilities for the Maryland State Department of Education (MSDE) and local boards of education related to the management and use of artificial intelligence (AI) for educational purposes. **The bill takes effect July 1, 2024.**

Fiscal Summary

State Effect: General fund expenditures increase by $119,500 in FY 2025 for additional staff needed to implement the bill. Future years reflect annualization, inflation, and the elimination of one-time costs. Revenues are not affected.

(in dollars)	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Revenues	$0	$0	$0	$0	$0
GF Expenditure	119,500	146,200	152,700	159,300	166,300
Net Effect	($119,500)	($146,200)	($152,700)	($159,300)	($166,300)

Note:() = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate increase; (-) = indeterminate decrease

Local Effect: Expenditures for local boards of education may increase to hire new staff with AI experience, as discussed below. Revenues are not affected. **This bill may impose a mandate on a unit of local government.**

Small Business Effect: Minimal.

Analysis

Bill Summary:

Artificial Intelligence – Guidelines, Standards, and Best Practices

"AI" means a machine-based system that (1) can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments; (2) uses machine- and human-based inputs to perceive real and virtual environments and that abstracts these perceptions into models through analysis in an automated manner; and (3) uses model inference to formulate options for information or action.

MSDE must consult with the AI Subcabinet of the Governor's Executive Council to develop and update guidelines, standards, and best practices for county boards, in accordance with the Future of Teaching and Learning Report of the U.S. Department of Education to:

- implement and promote the safe, responsible, and ethical use of AI, as specified; and
- implement the best practices for professional development on AI policies and procedures.

MSDE must develop strategies to coordinate and assist county boards and county superintendents to implement the best practices. Each county board must designate an employee to facilitate the productive and ethical use of AI in elementary and secondary education.

MSDE must coordinate with the Career and Technical Education (CTE) Committee and the CTE Skills and Standards Advisory Committee to provide recommendations for integrating AI into college and career readiness (CCR) standards established by the State Board of Education (SBE) and required by §7-205.1 of the Education Article.

Artificial Intelligence – Policies and Procedures

MSDE must adopt policies and procedures regarding the development, procurement, implementation, utilization, and ongoing assessment of systems that employ AI by a county board. The policies and procedures must, (1) subject to any other applicable law, govern the development, procurement, implementation, utilization, and ongoing assessment of systems that employ AI by a county board and (2) be sufficient to ensure that the use of any system that employs AI by a county board does not result in unlawful

discrimination or disparate impact; have negative impacts on the health, safety, or well-being of students and staff; or collect personal information from students and staff.

Current Law:

Artificial Intelligence

For information on the status of AI in the State and nation, including information on the AI Subcabinet of the Governor's Executive Council, please see the **Appendix – Artificial Intelligence**.

Career and Technical Education Committee

Chapter 36 of 2021 (Blueprint for Maryland's Future – Implementation) created the CTE Committee as a unit within the Governor's Workforce Development Board. The purpose of the committee is to build an integrated, globally competitive framework for providing CTE to Maryland students in public schools, postsecondary institutions, and the workforce.

College and Career Readiness Standard

SBE had to adopt a CCR standard as specified in English language arts, mathematics and, when practicable, science. MSDE had to develop and begin to implement a plan to publicize the standards by January 1, 2022.

It is the goal of the State that students enrolled in public school meet the CCR standard before the end of grade 10 and no later than the time the student graduates from high school. It is also the goal of the State that each student enrolled in public school, regardless of the student's race, ethnicity, gender, address, socioeconomic status, or the language spoken in the student's home, have equitable access to CCR and meet the CCR standard at an equal rate.

Beginning with the 2021-2022 school year, each student must be assessed no later than grade 10 by a method adopted by SBE to determine whether the student meets the CCR standard. Meeting the CCR standard initially required a student to achieve the equivalent of a score of 4 or 5 in the mathematics and English portions of the Partnership for Assessment for College and Career Readiness grade 10 assessments, on the Maryland Comprehensive Assessment Program (MCAP) grade 10 assessments, or any successor assessments. Statute required MSDE to conduct an empirical study of the interim CCR standard to determine whether the standard adequately measured students' readiness for college or careers. After the required empirical study has been completed, the CCR standard had to reflect the results of the study.

On January 23, 2024, SBE adopted a new CCR standard, informed by the study's results. Proficiency under the new CCR standard can be demonstrated in two ways. The first method is for a student who has earned a high school grade point average of 3.00 or higher. Such a student must also earn a grade of A, B, or C in Algebra I, or score proficient or above on the Algebra I MCAP. The second method entails a student scoring proficient or above on both the English Language Arts 10 and the Algebra I MCAP.

State Expenditures: The bill requires MSDE to develop AI guidelines, standards, and best practices for local boards of education and adopt policies and procedures regarding the development, procurement, implementation, utilization, and ongoing assessment of systems that employ AI by a county board of education. It also requires MSDE to coordinate with local school systems on an ongoing basis to implement best practices related to AI. MSDE does not have the experience or expertise working with AI necessary to handle these responsibilities with existing staff.

Thus, to implement the bill, MSDE requires one additional staff person with specialized expertise in AI and must rely considerably on the expertise of the AI Subcabinet of the Governor's Executive Council in the development and adoption of the guidelines, standards, best practices, policies, and procedures. General fund expenditures increase by $119,515 in fiscal 2025, which assumes a 90-day start-up delay from the bill's July 1, 2024 effective date. This estimate reflects the cost for MSDE to hire one AI specialist to handle the aforementioned responsibilities in collaboration with the subcabinet. It includes a salary, fringe benefits, one-time start-up costs, and ongoing operating expenses.

Position	1.0
Salary and Fringe Benefits	$112,259
Operating Expenses	7,256
Total FY 2025 State Expenditures	**$119,515**

Future year expenditures reflect a full salary with annual increases and employee turnover as well as annual increases in ongoing operating expenses.

The CTE committee and the AI Subcabinet of the Governor's Executive Council can consult with MSDE using existing budgeted resources.

Local Expenditures: Expenditures for local boards of education may increase, potentially significantly, for local boards to hire staff with experience and expertise in AI. For example:

- Anne Arundel County Public Schools anticipates needing to hire a dedicated teacher specialist with experience in AI;

- Montgomery County Public Schools anticipates needing to hire two staff: one dedicated to the technical aspects of AI; and one with focused on AI use by teachers and students; and
- St. Mary's County Public Schools anticipates needing to hire one coordinator of information technology security to implement the bill's requirements.

Conversely, Baltimore City Public Schools advises that it already has existing staff exploring the potential use of AI for school systems and, therefore, can implement the bill's requirements using existing budgeted resources.

Additional Information

Recent Prior Introductions: Similar legislation has not been introduced within the last three years.

Designated Cross File: HB 1297 (Delegate Young) - Ways and Means.

Information Source(s): Department of Information Technology; Maryland State Department of Education; Maryland Department of Labor; Anne Arundel County Public Schools; Baltimore City Public Schools; Montgomery County Public Schools; Prince George's County Public Schools; St. Mary's County Public Schools; Department of Legislative Services

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km/mcr

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Appendix – Artificial Intelligence

Artificial Intelligence – Generally

Artificial intelligence (AI) is a broad field of computer science that deals with the creation of "intelligent" systems that can reason, learn, and act autonomously. There are many different branches of AI, each with its own focus and set of techniques, such as machine learning, neural networks, robotics, expert systems, fuzzy logic, and natural language processing. AI research has been successful in developing algorithms for solving a wide range of problems, from game playing to conversation simulation.

Though a variety of forms of AI are now in use, experts have not established an agreed-upon definition for the technology. An early definition in 1955 branded AI as "making a machine behave in ways that would be called intelligent if a human were so behaving." A more recent and expansive consensus definition of AI emerging in academic circles as cited by Stuart Russell and Peter Norvig in their computer science textbook *Artificial Intelligence: A Modern Approach*, defines it as "the designing and building of intelligent agents that receive percepts from the environment and take actions that affect that environment."

In Executive Order 01.01.2024.02, which is discussed in more detail below, for State regulatory purposes, AI means a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. AI systems use machine- and human-based inputs to perceive real and virtual environments; abstract such perceptions into models through analysis in an automated manner; and use model inference to formulate options for information or action.

History of Artificial Intelligence

Though the general public's awareness of AI may be relatively recent, AI has existed conceptually for nearly 70 years. In 1950, Alan Turing, the English mathematician and computer scientist, wrote Computing Machinery and Intelligence, one of the first papers that posed the question of whether machines can think. The phrase "artificial intelligence" was first coined in 1956 at an academic conference on the subject. From 1964 to 2017, numerous developments were made in the field, including the Massachusetts Institute of Technology's "ELIZA," a chatbot that simulates conversation; IBM's Watson, a cognitive computing platform that uses AI to help businesses and individuals make decisions; and Apple's Siri, a voice assistant for consumers that uses speech recognition.

More recently, in November 2022, OpenAI's ChatGPT (Chat Generative Pre-Trained Transformer) was released for public beta testing and by January 2023 had become one of the fastest growing consumer software applications in history, gaining more than 100 million users in that time. As users interact with the software, the software learns from the conversations and improves its capabilities. The continued development of this and other generative AI software systems is drawing the attention of policymakers to better understand the technology, regulate it to protect individuals from potential risks, and promote the development of safe applications of the technology.

Major Risks – Data Privacy, Bias, and Academic Integrity

Although data privacy has been a matter of concern since the advent of the Internet, the complexity of the algorithms that power AI has prompted interest in government regulation of the technology to prevent the improper or unethical use of personal data. However, regulation of this aspect of AI is sometimes challenging due to intellectual property claims and resistance by the private owners of these technologies to allow exploration of the internal workings of their systems.

As AI algorithms and neural networks are trained by humans, existing societal discriminations can be incorporated into the internal and inherent biases of the data sets that AI systems use and can affect the way an AI model functions. One set of AI functions that has been identified as potentially having some bias is the use of facial recognition software in security or policing contexts. In use by various law enforcement agencies throughout the nation, this software has been shown to be prone to error and unable to accurately recognize people of color, women, and young people. Similarly, some AI software designed to screen resumes for employment consideration has been found to be biased against minorities, women, and older individuals.

Academic institutions, including secondary and postsecondary institutions, have also raised concerns about AI's potential to compromise academic integrity. Generative AI systems can produce written works in response to prompts that can be presented by students as their work product. These institutions have struggled to develop policies and practices to limit the potential for such adverse uses of AI.

Federal Initiatives

The National Artificial Intelligence Initiative Act of 2020 became law on January 1, 2021. The aim of the Act is to promote U.S. leadership in AI research and development with the goal of accelerating the nation's economic prosperity and national security through the development and use of trustworthy AI in the public and private sectors and preparation of the workforce for the inevitable integration of AI systems. This multi-agency initiative has included work by the U.S. Department of Energy, in consultation with the National

Institute of Standards and Technology, to develop the AI Risk Management Playbook as a reference guide to support responsible and trustworthy AI use and development. Though not a binding document, the playbook addresses common AI risks and steps that AI leaders, practitioners, and procurement teams can take to manage data privacy and bias risks.

In addition, the White House introduced its Blueprint for an AI Bill of Rights, a set of five principles and associated practices (safe and effective systems; algorithmic discrimination protections; data privacy; notice and explanation; and human alternatives, consideration, and fallback) to help guide the design and deployment of automated systems to protect the rights and opportunities of the public, as well as public access to critical resources and services, and to serve as a guide for how new AI resources are developed. The blueprint is designed to apply to speech-related systems, surveillance and criminal justice algorithms, voting-related systems, and any other systems that could lead to potential algorithmic discrimination.

In October 2023, the White House issued an executive order to establish new standards for AI safety and security and direct actions that aim to protect privacy of Americans, advance equity and civil rights, protect consumers and workers, and promote innovation and competition.

Maryland Law

Maryland has certain statutes in effect that govern AI directly or indirectly. The Department of Information Technology and the Secretary of Information Technology are statutorily responsible for annually evaluating the feasibility of units of State government providing public services using AI, machine learning, commercial cloud computer services, device-as-a-service procurement models, and other emerging technologies.

Indirectly, Chapter 446 of 2020 prohibits employers from using facial recognition services to create facial templates of job applicants without their consent, and Chapter 41 of 2022 requires courts to consider the results of algorithmic tools before detaining juveniles. Additionally, Maryland's broader consumer protection and data privacy laws, such as the Consumer Protection Act and the Maryland Personal Information Protection Act (MPIPA), offer certain protections against AI-related risks. For example, MPIPA requires businesses that collect, maintain, or license personal information to implement reasonable security measures.

Regulatory Framework by Executive Order

In January 2024, the Governor issued Executive Order 01.01.2024.02 to direct, guide, and regulate the use of AI by State agencies. Primarily, the executive order establishes an AI subcabinet to, among other things, (1) promote the foundational principles that State

agencies must adhere to when using AI (*i.e.*, fairness, equity, privacy, safety, validity, and transparency); (2) provide advice and recommendations to the Governor on the use of AI; (3) facilitate statewide coordination on the responsible, ethical, and productive use of AI; (4) develop an AI action plan to operationalize the AI principles; (5) find, evaluate, and offer training programs for state workers on the use of AI; and (6) study and make recommendations to the Governor and General Assembly on how AI affects the State workforce, economic development, and security.