Office of the District of Columbia Auditor

Written Testimony of

The Hon. Kathleen Patterson

District of Columbia Auditor

before the

Council of the District of Columbia

Committee of the Whole and Committee on Education

Joint Public Hearing on

Bill B23-0049, the "Classroom Innovation Grant Program Act of 2019"

B23-0244, the "Financial Literacy Education in Schools Amendment Act of 2019"

B23-0196, the "District of Columbia Public Schools Student Technology Equity Act of 2019"

November 6, 2019

Room 500

The John A. Wilson Building

1350 Pennsylvania Avenue, N.W.

Washington, DC 20004

I appreciate the opportunity to provide written testimony on the District of Columbia Public Schools (DCPS) and the system's classroom information technology (IT) needs and plans. It is my hope that this background information will be useful to the Committees as they consider the legislation and continue their oversight on the school system's plans to improve IT resources throughout District classrooms.

In October 2017, ODCA published the report, Budgeting and Staffing at Eight DCPS Elementary Schools, a study designed to assess whether the system's Comprehensive Staffing Model (CSM) is providing the promised resources. We focused on elementary schools–one in each ward–because they are the majority of DCPS schools and set the foundation for success throughout the system. Among other things, ODCA recommended additional careful oversight on how at-risk funding is used and followed up the study of budgeting and staffing with an additional report on use of at-risk funds, D.C. Schools Shortchange At-Risk Students, in June 2019.

Our 2017 review of eight elementary schools included interviews with parents and school-based staff as well as analysis of salaries and other expenditures. Among our findings was this: "Interviewees from most of the schools reported limited amounts of key technology resources, some of which were also outdated and of low-quality, and therefore frequently unusable." Based on that finding we recommended that DCPS **"create and make public a multi-year technology needs plan to define and provide adequate technology to each school. The plan should include expected costs and planned funding sources."**

In written comments on the draft report including our recommendations, then-Chancellor Antwan Wilson wrote that DCPS agreed with the recommendation. His letter said:

> *Prior to the issuance of this draft audit report, DCPS' Office of Information Technology began work to develop a comprehensive Technology Roadmap. Our roadmap incudes five key areas: devices, infrastructure services, shared technology platforms, technology proficiency and data reporting. These core focus areas will provide mass enhancements in all areas of concern as detailed in the report. To date, the initial draft of our Technology Roadmap has been shared internally within DCPS' central administration to obtain feedback from internal stakeholders. Additional feedback will be sought from school-based leaders, teachers, students, parents, and members of the community. Upon completion and approval of the Technology Roadmap, the associated funding requests will be presented during the FY19 budget process.*

To my knowledge the Technology Roadmap described in the Chancellor's September 28, 2017, letter to ODCA was never published. Roughly a year later we requested an update on this recommendation from DCPS as part of our annual recommendation compliance monitoring. In response, DCPS stated that:

> *DCPS continues to prioritize the importance of having a viable technology road map to help promote student achievement and resolve equity issues throughout the District. During the drafting process of the technology plan for DCPS, which included the*

alignment of resources and vision, it was determined that the agency needs more focused expertise to build a comprehensive technology road map spanning over the next several years. Accordingly, DCPS is hiring a new Chief of Data and Strategy to lead this work. With the creation of this office and under the direction of a chief, DCPS is moving closer to defining the technology road map. The Chief, Data Strategy is set to start December 10, 2018.

According to the DCPS website, Colin Taylor was tapped to be the Chief of the Office of Data Systems and Strategy in January 2019. He previously served in the DCPS Chief of Staff's office as Deputy Chief for Data and Strategy.

Importantly, the findings from our 2017 report show that technology needs are more than just devices–the needs encompass maintenance, skills, training, updates, transparent goals, and uses across the entire DCPS system. Therefore, our recommendation was that DCPS develop a multi-year technology needs plan. The District of Columbia Public Schools Student Technology Equity Act of 2019 is a good start in that it similarly reflects that technology needs must be assessed; however, our findings would indicate that it should go further to be more comprehensive and reflect a holistic view of technology needs. Notably, articulating a plan for transparent outreach, support, and training for all staff interacting with technology would align with the needs we found in our audit.

Following are excerpts from ODCA's 2017 report documenting the breadth of different types of technology needs described at the eight elementary schools in our sample with subheads added for clarity:

Need for professional development and support aligned to multiple uses of technology, including both testing and learning for all students

DCPS students use technology resources for both testing and learning. Elementary school students in grades 3 and higher[1] take the Partnership for Assessment of Readiness for College and Careers (PARCC) test, which is computer-based. In addition, principals, teachers, and parents stated that it was important for students to practice computer skills used in PARCC tests to prepare for the exam.

Software is also an important instructional tool in many DCPS elementary schools, part of an approach called "blended learning" that is intended to integrate "high-quality digital content with traditional teaching to personalize learning for students." More than half of DCPS elementary schools use a blended learning program called ST Math, for example, and DCPS's Fiscal Year 2017 Budget Development Guide lists four other blended learning programs approved for use in SY 2016-2017, which are available to students using a computer at school or out of school. Most of the schools in this study

[1] DCPS students in grades 3-8 as well as those enrolled in Algebra I, Geometry, and English I and II take the Partnership for Assessment of Readiness for College and Careers (PARRC) test.

used at least one of the education technology programs in SY 2016-2017 that are tracked by DCPS's Office of Teaching and Learning.[2]

To use education technology programs, support learning and test preparation, and enable computerized test-taking, schools need devices, such as tablets or computers. Learning at DCPS elementary schools also involves the use of projectors and interactive whiteboards to display content. DCPS defines a menu of devices that can be purchased with DCPS funds and are included in centralized technology support, including laptops, desktops, tablets, carts, interactive whiteboards, networked projectors, adapters, and printers. DCPS budgeting standards recommend one student device for every three students in testing grades, to be replaced every five years or more frequently, and one interactive whiteboard in each classroom.

Need for transparent and responsive outreach and communication regarding technology goals, uses, and support

The DCPS recommended device-to-student ratio falls short of the recommendation of one device per student from national organizations such as the State Education Technology Directors Association.[3] ODCA did not directly measure the quantities of technology resources in this study, so we cannot say if DCPS meets either its targets for student devices or interactive whiteboards. Nevertheless, interviewees at two schools in this study stated that their schools did not have working interactive whiteboards in each classroom.

Interviewees reported limited amounts of key technology resources (six of eight schools) and said that existing technology was frequently unavailable because it was outdated and of poor quality (seven of eight schools). Technology resources that were described as lacking included computers, both desktops and laptops, as well as tablets, projection equipment such as SMART Boards, and assistive technology for students receiving special education.

Regarding technology that was unused or unusable due to condition or age, the problems reported at each school varied but included desktop and laptop computers that were non-operational, sometimes due to keyboards that were broken or missing pieces, as well as SMART Boards that did not work. At one school, interviewees reported that their five-year-old computers were outdated and subject to frequent breakdowns. At another school, a teacher stated that technology support personnel had informed her that computers were too old to be fixed. Interviewees expressed concern that the outdated computers at two schools represented a security risk.

[2] DCPS or individual schools purchase the software licenses, and access to some programs is free.

[3] Fletcher, G., Schaffhauser, D., and Levin, D. (2012). Out of Print: Reimagining the K-12 Textbook in a Digital Age, Washington, DC: State Educational Technology Directors Association, p. 28.

There was wide variety in the information technology (IT) resource limitations described at the eight schools. One teacher stated that his school did not have one laptop cart per grade, while a teacher from another school judged technology insufficient because the school did not provide one computer or tablet per student. ODCA also heard several perspectives on the issue of technology and test-taking. A teacher at one school complained that technology was not available for learning while it was in use for testing, while several interviewees from another school expressed their concern that students did not have enough time to practice using computers to do well on exams. Many interviewees emphasized that many students do not have access to computers and the internet at home, making it even more important that they have computer access at school.

Need for reliable and transparent IT maintenance and support

At the schools in this study, several factors may contribute to the perceived lack of IT resources, including a legacy of low investment in technology, insufficient funding, and limited support. At one school, interviewees said some computers were 11 years old, and that 80 were removed due to security risks created by outdated systems. The interviewees expressed frustration that DCPS had not replaced the computers earlier, and stated that the school had to install second-hand computers that were donated. More generally, interviewees commented that technology support was limited because there were long delays before an item would be repaired, that support was not available, that technology support staff members were not competent,[4] or that relatively inexpensive repair inputs were unavailable, such as replacement lightbulbs for projectors.

Insufficient working technology has been detrimental to students, according to educators and community members at the schools in this study. End-of-grade exams are computer-based, and limited numbers of working computers decrease student preparation for the tests (as noted earlier), while extending the duration of the testing period for a grade. One teacher reported that the result is a longer period during which no new learning happens, as students cycle through the limited number of computers to take the exam and teachers are assigned outside their classrooms to serve as impartial proctors. Additionally, interviewees at one school noted that software investments, such as those that require projection to implement, are not fully utilized in classrooms that lack the necessary technical support (such as projection capacity). Moreover, schools with limited resources of sufficient quality provide students with less exposure to digital content. Interviewees from several schools noted that the students must take turns to use limited numbers of computers or tablets. One administrator indicated that

[4] At two schools, the interviewees were referring to technology staff on the school's payroll; at the third school, the interviewee was referring to technology support provided by the Office of the Chief Technology Officer.

his school limits computer use to conserve computers for administering exams, while a teacher stated that it is difficult to plan lessons that rely on technology that might fail.

Need for transparent and consistent guidance around funds and expenditures for IT devices, support, and maintenance

As noted earlier, each school receives $20 per pupil for a "placeholder line" in the budget called "at-risk technology investment," and schools where more than 75 percent of students are designated to be at risk receive an additional $20 per-pupil for this purpose. Schools must then petition the central office to shift the at-risk technology funds to specific budget codes. This technology funding is part of DCPS's "Non-Personnel Services Model." While these comments reflect a limited number of interviews at only eight schools, the consistency among the comments was sufficient to suggest that DCPS should review its technology funding formula to ensure that it provides all schools with high-quality, up-to-date, and working technology resources.

In recommending development of a comprehensive multi-year IT plan in our 2017 report, ODCA noted that such a plan would both define technology needs and provide for maintenance and upgrades. We wrote:

> *…a detailed, multi-year technology plan will help advance the goals the Chancellor hopes to achieve by 2022, such as ensuring that all students in kindergarten through Grade 2 are reading on or above grade level and doubling the percentage of students who are college and career-ready.*

Based on our earlier work outlined here, Councilmembers may wish to ask the following questions of DCPS and Administration representatives who testify on Bill 23-0196, *The District of Columbia Public Schools Student Technology Equity Act of 2019* and the other IT-related bills before you:

- What happened with the Technology Roadmap then-Chancellor Wilson described in his September 2017 letter to the D.C. Auditor?

- What changes in approach to classroom information technology are underway in the Office of Data Systems and Strategy?

- How many of the goals described in the D.C. Auditor's 2017 report and the recommendations of Digital Equity in DC Education are expected to be met by the current Technology Roadmap under construction by DCPS and its Office of Data Systems and Strategy?

- How have resources for comprehensive IT needs, such as professional development, support, and maintenance been assessed and shared?

- How have resources for holistic IT needs, such as professional development, support, and maintenance been transparently and consistently communicated to school communities?

Thank you very much for the opportunity to share this information.