

Purpose

The purpose of this brief is to project the short term impact of offering and successfully enrolling virtual classes at Albemarle High School (AHS) to alleviate overcrowding and adding program capacity.

Background

Albemarle High School's program capacity is listed at 1819 students. The enrollment projection for 2015-16 is 1974 students with projected growth to 2050 cited for 2016-17. AHS houses 105 classrooms, with a current (2015-16) average class size of 24 students. Four class periods are offered each day on an 8-period schedule. Not all of AHS's classrooms are designed to hold the average class-size, and some are larger and can accommodate more students.

Albemarle County Public Schools (ACPS) has had a history of offering "computer-based" learning opportunities for students prior to the 21st Century. At AHS, for example, a personal-computer based instruction program was introduced in the 1990's for students to recover classes to earn credit. Computers used for these classes were not networked and instruction was software-based.

During the early part of this century, AHS began offering a web-based credit recovery program, like the other County high schools. Hundreds of ACPS high school students have earned back credits or taken classes on-line through this program when intransigent scheduling conflicts have occurred. Like many other high schools throughout the Commonwealth in the 2000's, AHS also offered a synchronous "distance learning" course, AP Calculus, through video connections with UVA.

Opportunity

Beginning in 2012-13, ACPS inaugurated the Digital Learning Initiative (DLI), ingraining a burgeoning understanding that the term "educational technology" (ed-tech) not only involved the effective utilization of an assortment of tools, such as media, machines and networking hardware, but also theoretical underpinnings for how such use can positively impact cognition and student learning.

The primary focus of the DLI was to accelerate the adoption and creation of digital curriculum. By understanding the development of such instructional resources, we positioned the division to move to a more hybridized learning environment. The DLI with renewed respect for the range of teacher capacity and school readiness has tempered our approach with a greater focus on professional development. Personal learning devices (laptops) were provided to each student grades 6-12 to enhance the impact of the digital curriculum and promote the hybrid-learning environment.

On the micro-scale of instruction, teachers adapt traditional lessons with educational technology along the continuum described with the [S.A.M.R.](#) model through Substitution, Augmentation, Modification, and Redefinition of the teaching and learning experience through ed-tech. We have now added Learning Technology Integrators, specific instructional personnel, to assist teachers in their skill development.

On the macro scale, educational technology as part of the instructional program continues to elevate the virtual coursework redefinition of the learning experience from face-to-face, synchronous, dependent seat time to potentially remote, asynchronous, independent, self-paced course work.

There is a continuum of these experiences we often refer to as a blended environment contingent on teacher, school, and student readiness.

In light of this continuum, ACPS has been gradually building out a menu of virtual courses. The build out is summarized by the table below:

	2012-13	2013-14	2014-15	2015-16
Econ/Personal Finance Virtual	12	54	96	110
AHS	12	16	49	36
MOHS		38	21	39
WAHS			26	35
ST Health 1 Virtual		9	42	147
AHS		9	19	90
MOHS			0	13
WAHS			23	44
ST Health 2 Virtual		8	14	52
AHS		8	14	23
MOHS			0	9
WAHS			0	20
ST PE 1 Virtual				140
AHS				84
MOHS				30
WAHS				26
ST PE 2 Virtual				119
AHS				67
MOHS				34
WAHS				18
Grand Total	12	71	152	568
<i>Note: Summer School Enrollments not included.</i>				

Each new course offering requires a section of FTE, the same number of students in the course as if it were offered synchronously in a classroom space, professional learning and subsequent curriculum development, and additional time for the teacher and students to interact online. Virtual courses also require some space and time on school grounds so that students who need bus transportation can arrive and depart from school during regular hours.

A virtual classroom is an online learning environment. The environment is often web-based and accessed through a learning management system, such as Blackboard. Just like in a real-world classroom, a student in a virtual classroom can participate in synchronous instruction, which means that the teacher and students are communicating in real time.

Teachers of virtual classes often employ multiple synchronous technologies, such as screencasting, video conferencing, and live streaming to provide remote students with the ability to collaborate in real time. To enhance the educational process, teachers also utilize asynchronous communication tools, such as message boards, audio/video recordings, screen capturing, and chat tools.

Projection

For projection purposes, let's assume we maximize our chances of students relying on their own transportation by offering senior courses: Government and English 12 (Dual Enrollment & AP Variants Included). An additional assumption is that students will take a course load that includes only eight courses and the virtual courses are not 9th or 10th credits.

Please see the table below for projections of the impact of enrollment of students in virtual classes at AHS for 2016-17 and 2017-18, assuming a course enrollment of 25 students.

Year	Projected Enrollment	Number of English & Government Sections Combined	Total Enrollment in Virtual Courses & Percentage of *School Enrollment		Total Number & Percentage of Room Occupancies Vacated for Other Courses	
2016-17	2050	4	100	4.8%	4	3.8%
2017-18	2064	8	200	9.6%	8	7.6%

*Enrollment in the courses would not reduce the school attendance for a whole day, only the periods in which the students are off-grounds or in spaces other than classrooms.

Potential Future Programming

While offering a virtual course by itself is not a strong cure for reducing pressure on school capacity, it is a way to offer a new choice in learning space and mode of learning for students and staff. As we progress on the continuum of modernization and integration of educational technology, it is a branch of evolution to explore. We will investigate new programmatic changes that could alter the ways high school instruction looks in the future. These changes could be a result of a new practicum-based academy where the students work during the day and complete coursework in the evening. It could be a new way to incentivize students to complete high school early. It could also allow high school students the opportunity to participate in school so that they only attend part of the day. Further, as many career and postsecondary environments use facets of virtual technology, students will have beneficial preparation for lifelong learning and digital citizenry.