

Virginia: Supporting Algebra Readiness

Over the past three years, approximately 20% of students in Virginia failed to meet the proficiency rating on the end of course Algebra I assessment. To address this shortfall, the Virginia Department of Education (VDOE) turned to its vision to “create an excellent system of public education that prepares every Virginia student for success” and launched the Algebra Readiness Initiative to help teachers assist students who are at risk of failing the Algebra I assessment.

VDOE’s Algebra Readiness Initiative is designed to support students in grades six through nine who are identified as at risk of failing the end of course assessment in Algebra I. To receive a standard diploma in the state of Virginia, students must earn a minimum of three mathematics credits. Typically, this includes Algebra I, Geometry, and Algebra II—although other courses can be substituted in certain circumstances. Students must pass the end of course exams to earn credits. If a student fails to earn an Algebra I credit, that puts them in a position of playing catch-up over the next year, or more, in high school. A range of studies cite failing Algebra as one of the key predictors for dropping out of high school (click here to read more: <http://knowre.com/2016/01/25/algebras-link-to-high-school-drop-out-rates/>).

Virginia’s Algebra Readiness Initiative is a statewide effort to mitigate the number of students failing Algebra I. The initiative includes two main components: diagnostic testing guidance and targeted intervention services for students. In 2018, VDOE hosted four regional Algebra Readiness Institutes. Approximately 200 educators attended the institutes. At the institutes, participants learned how to use student assessment data to design learning plans. Additionally, VDOE staff announced new and updated department-developed resources—formative assessment items and standards-based lesson plans.

Another key feature of the institutes was the Mathematics Vertical Articulation Tool (MVAT). VDOE developed this tool to help educators create individual student learning plans. Educators were taught how to work through the document by using testing data, previous intervention information, formal and informal assessment data, and previous mathematics grades to identify student strengths and areas of unfinished learning. Teachers then learned how VDOE’s formative assessment items and standards-based lesson plans could be purposefully accessed to address a student’s area(s) of unfinished learning in the classroom.

While educators tended to view this process as valuable, many noted how time-consuming it was to complete the document and gather the resources by hand. Before the 2018 institutes, VDOE requested technical assistance support from the

ARCC to co-develop an interactive and dynamic MVAT in which educators could enter information electronically, and the learning plan and necessary resources would populate automatically. The sixth-grade interactive MVAT was demonstrated at all four 2018 institutes and participants were pleased with the tool and appreciative for the timesaver.

After the institutes, ARCC and VDOE collaborated to develop interactive MVAT versions for grades 3 – Algebra I. All versions of the tool are now available on the VDOE website, and educators across the state are using it to plan for and support Algebra readiness.

For more information about Virginia's Algebra Readiness Initiative, please visit:
http://www.doe.virginia.gov/instruction/mathematics/middle/algebra_readiness/index.shtml

To view VDOE mathematics instructional resources, please click:
<http://www.doe.virginia.gov/instruction/mathematics/index.shtml>