

Developmental Math Testing and Placement

In spring 2012, the VCCS implemented significant changes to developmental math placement and instruction. Students are placed based on their results on a new placement and diagnostics instrument – the Virginia Placement Test-Math (VPT-Math). Developmental math courses are now delivered in one-credit hour courses and developmental math instruction is distributed across nine units in addition to basic skills. To enroll in college-level courses in their field of study, students must show proficiency in Units 1-3 for Career Technical Education (CTE) majors, in Units 1-5 for Liberal Arts or Transfer, and in Units 1-9 for STEM, Business, or Healthcare majors.

Study Population

This snapshot examines an initial look at students' proficiency based on VPT-Math scores and enrollment behavior of the 15,269 students tested prior to the start of spring 2012 (January 15, 2012). These students were the first group to complete the VPT-Math and as a result, to enroll in the new courses.

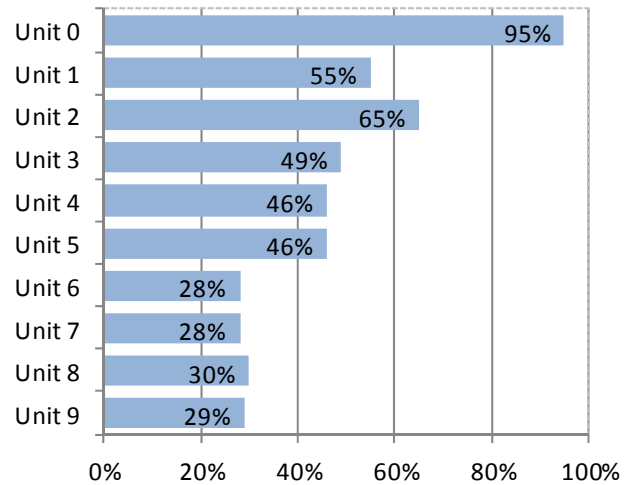
Highlights

- On average, students completed the VPT-Math in 89 minutes.
- A majority of students were proficient in units 0, 1, and 2 and nearly half of students were proficient in units 3, 4, and 5.
- Of students tested, 40% were proficient in units 1-3 (required for most CTE curricula), 35% were proficient in units 1-5 (required for liberal arts majors), and 24% were proficient in units 1-9 (required for STEM and Business majors).
- Only 5% of students tested earned VPT-Math scores indicating that their skills were below the high-school level.
- A majority of students (73%) who took the VPT-Math on or prior to January 15, 2012, first enrolled in spring 2012.
- On average, VPT-Math test-takers who enrolled in the spring 2012 term took 9.79 credits overall and 2.82 developmental math credits.
- The total number of students taking developmental math courses has decreased from 23,018 in spring 2011 to 19,182 in spring 2012.
- More than 690 students who took the VPT-Math and enrolled in developmental math in spring 2012 subsequently enrolled in college-level math by fall 2012.

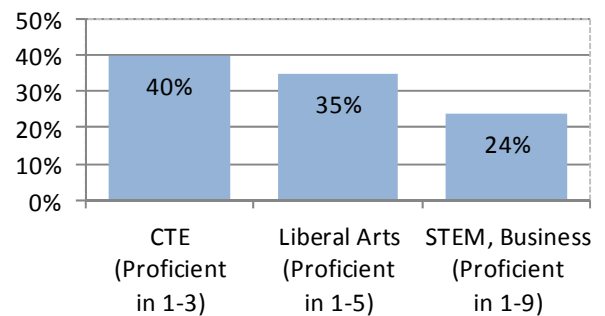
Reflections

This first analysis of the VCCS developmental math redesign focuses on reducing the overall need for developmental education and reducing the time to complete coursework. Although the numbers of developmental math credit hours declined sharply in spring 2012, nearly three-quarters of students who took the VPT-Math enrolled in the first semester following their placement testing. More than a third of students tested showed proficiency that would allow them to enroll directly into college math for liberal arts majors. Colleges should help students to identify their majors early on so that they can focus specifically on the math skills required for their course of study.

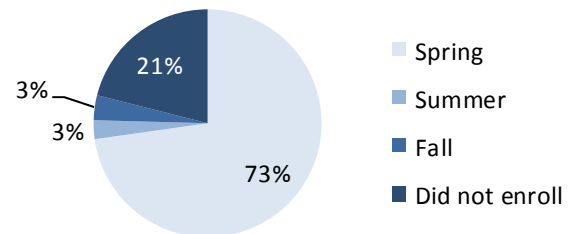
Proficiency Results from VPT-Math



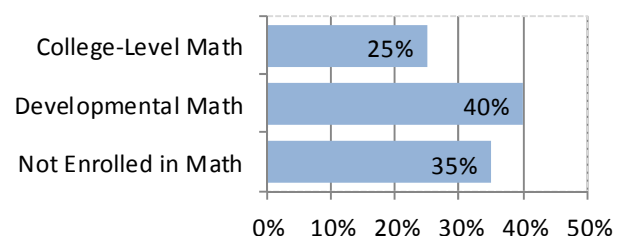
Math Readiness of Students by Academic Program



Semester of First Enrollment for VPT Test-Takers (prior to January 15, 2012)



VPT Test-Takers Enrolled in Spring by Math Course Taken



DEVELOPMENTAL MATH PROFICIENCY AND ENROLLMENT

College	Number Tested Before January 15th	Proficiencies			Enrolled First in Spring 2012		Of those who enrolled in Spring 2012:		
		% Proficient in 1-3	% Proficient in 1-5	% Proficient in 1-9	N	% of Test Takers	% Enrolled In Any Math Course	% Enrolled in Developmental Math Course	% Enrolled In College-Level Math Course
Blue Ridge	367	46	36	23	271	74	64	44	21
Central Virginia	495	36	30	19	383	77	69	45	24
Dabney S. Lancaster	235	43	40	26	189	80	59	38	21
Danville	459	34	31	25	279	61	68	33	35
Eastern Shore	131	26	19	11	73	56	49	42	7
Germanna	979	35	29	20	754	77	69	54	16
J. Sargeant Reynolds	1,406	37	31	22	976	69	59	38	22
John Tyler	740	40	35	25	522	71	67	43	25
Lord Fairfax	542	39	33	22	423	78	69	53	17
Mountain Empire	162	25	21	9	128	79	59	49	12
New River	177	39	33	23	137	77	59	33	27
Northern Virginia	3,389	63	58	47	2,776	82	70	27	44
Patrick Henry	144	16	12	8	111	77	51	43	8
Paul D. Camp	206	19	13	6	135	66	62	59	4
Piedmont Virginia	456	40	36	27	373	82	67	48	20
Rappahannock	260	32	26	16	186	72	58	38	20
Southside Virginia	414	23	15	9	314	76	54	46	8
Southwest Virginia	145	28	23	17	124	86	62	44	19
Thomas Nelson	1,104	30	25	17	544	49	62	47	15
Tidewater	2,310	33	27	18	1,590	69	64	46	19
Virginia Highlands	167	31	21	10	122	73	68	55	13
Virginia Western	787	37	31	20	545	69	49	33	17
Wytheville	194	27	25	14	154	79	58	51	8
VCCS	15,269	41	35	25	11,109	73	65	40	25

How Were Data Generated?

The data for this snapshot was collected from the testing results of students who completed the VPT-Math prior to January 15, 2012. Results were compared to VCCS enrollment data to determine if and when test-takers enrolled in the VCCS and which courses they pursued.

Upcoming Research

Future snapshots will continue to track this first group of VPT-Math test takers to look at the following:

- Success in Developmental-Level Math Courses (June 2013)
- Success in College-Level Math Courses (December 2013)
- Initial Graduation and Transfer (June 2014)

For More Information

More information about developmental education in the VCCS can be accessed via the following link:

<http://www.vccs.edu/Academics/DevelopmentalEd.aspx>

Developmental Math Unit Guide

Based on their performance on the VPT-Math, students could be required to take any of the following units:

Unit	Unit Name
Unit 0	Operations with Whole Numbers
Unit 1	Operations with Positive Fractions
Unit 2	Operations with Positive Decimals and Percents
Unit 3	Algebra Basics
Unit 4	First Degree Equations and Inequalities in One Variable
Unit 5	Linear Equations, Inequalities and Systems of Linear Equations in Two Variables
Unit 6	Exponents, Factoring and Polynomial Equations
Unit 7	Rational Expressions and Equations
Unit 8	Rational Exponents and Radicals
Unit 9	Functions, Quadratic Equations, and Parabolas