

MVP Math, Part 2: Not a Textbook Case

Understanding WCPSS's curriculum decisions and purchases

BY BETH SHUGG

"The essence of mathematics is not to make simple things complicated, but to make complicated things simple."

This quote by American mathematician Stan Gudder sums up how some math-minded professionals and teachers think math should be. It also represents what many math students would like for it to be.

But if you're following our series on Wake County Public School System's implementation of Mathematics Vision Project's Math 1, Math 2 and Math 3 curriculum, you already know that more than a few parents believe it complicates their student's ability to learn math.

Some families are paying as much as \$85 per hour for their students to be tutored to make up for what they aren't learning at school. Cliff Chafin, owner of Chapel Hill Math Tutor, is currently working with several of these students, as well as teachers who are trying to understand the best way to teach MVP. Chafin says he uses MVP with his students on a "very individual basis — like a one-on-one tailored basis," so students can make connections as they go, but he does not believe it should be used as a course curriculum.

"The company advertises it as sort of an exploratory approach to learning, and there are people objecting that this was never validated as a reasonable approach," he says. "I don't know how you could possibly scale that to a curriculum, and that's what Mathematics Vision Project seems to be trying to do ... I don't understand how they think they can do that in a course setting."

Teachers who like the new curriculum say it can be done and, in fact, feel this new way of learning math is long overdue.

"In classroom lessons, students are encouraged to offer their thoughts and discover logical reasoning for their strategies," says John Pritchett, a Math 1 and Math 3 teacher at Athens Drive Magnet High School in Raleigh. "By design, student thinking is not only acknowledged, but celebrated."

RECESSION = BUDGET CUTS

To understand how WCPSS arrived at the process that led to implementation of MVP, administrators point to the December 2007-June 2009 economic recession. WCPSS Assistant Superintendent for Academics Drew Cook says the district began feeling the effects of the recession during the 2009-10 school year, and that it resulted in budget cuts that caused "significant reductions" and, in some cases, "elimination" of funding for textbooks. He added that many of the school system's textbooks being used at that time were already tired and outdated.

"There were textbooks that had survived seven or eight years of multiple use by hundreds of students," he says. "There were teachers

who were using old math textbooks. Quite frankly, I remember my own daughter coming home with photo copies of textbooks because there weren't enough textbooks for kids in the classroom."

Cook says this was one of the factors that led to the school system's decision to conduct an external curriculum audit of WCPSS in 2016, the results of which made it "very clear" the district needed a consistent math curriculum countywide. So, in spring 2017, WCPSS administrators filled that gap with MVP.

"Ultimately, based on alignment to standards and also the breadth and the depth of resources and support that it provided, the district landed on MVP in 2017 as the best option," Cook says.

FOLLOWING THE MONEY

Carolina Parent has obtained public record documents issued by WCPSS Chief of Communications Tim Simmons showing the annual funding North Carolina Department of Public Instruction allotted to WCPSS for textbooks since the 2008-09 school year. The allotments listed below reflect the totals after charter school expenses were deducted and, when combined, equal \$51,356,687 over the course of the 11-year period. It's important to note that NCDPI allows school districts some flexibility regarding use of textbook funding for school-specific needs. (More on that later.)

The budget cuts Cook refers to began in 2009-10. As noted in the chart on page 19, WCPSS's textbook budget was \$9,310,352 in 2008-09. It dipped to an alarming \$243,734 in 2010-11. By 2017-18, the year MVP was implemented, the budget had risen to \$7,455,978.

"You can see that we went from \$9.3 million in 2008-09 to \$243,734 in 2010-11, then up to just over \$2 million in 2011-12," says Michael Yarbrough, senior administrator for communications at WCPSS. "During lean times you have to really work to make things last longer."

WCPSS's student population, noted in the chart as "second month average daily membership," increased annually during this time as well. The smallest increase occurred between 2017-18 and 2018-19, when the ADM only went up by 42 students.

Prior to the adoption of MVP, WCPSS Math 1 proficiency scores were in the 40th-70th percentile range, depending on which WCPSS data set is used. After modest gains following the first year MVP was implemented, both WCPSS and NCDPI data sets show that those scores dropped after the second year. WCPSS and NCDPI have released different proficiency percentages based on how they report testing data, and therefore provide different explanations and percentages for why and how much those scores dropped. We will cover this in part three of this series.

130 STATE TEXTBOOK ACCOUNT		
YEAR	BUDGET*	2 ND MONTH AVERAGE DAILY MEMBERSHIP**
2008-09	\$9,310,352	137,706
2009-10	\$5,725,813	139,599
2010-11	\$243,734	143,299
2011-12	\$2,161,261	146,848
2012-13	\$2,137,960	149,730
2013-14	\$2,187,612	153,300
2014-15	\$2,305,294	155,184
2015-16	\$5,186,211	157,180
2016-17	\$7,178,617	159,549
2017-18	\$7,455,978	160,429
2018-19	\$7,463,855	160,471

* Numbers reflect the budget after funds for charter schools were deducted.

** Average daily membership (ADM) is the total days in membership for all students over the school year divided by the number of days school was in session.

SOURCE: WCPSS Chief of Communications Tim Simmons

NCDPI uses a formula that produces a dollar amount per ADM that ranged from \$67 per ADM in 2007-08 down to \$14.26 per ADM in 2012-13 and up to \$38.67 per ADM in 2018-19.

As noted in part one of this series, MVP publishes materials free of cost under a Creative Commons license, but makes ancillary curriculum support and professional development products available for purchase. As of Sept. 20, 2019, WCPSS had spent approximately \$1.7 million on purchases from MVP, according to Yarbrough. This figure does not include the \$125,000 approved by the WCPSS Board of Education to cover a third-party independent evaluation by MGT Consulting Group, which is headquartered in Tampa, Florida. That evaluation is currently underway, with a report of the results expected to be presented at the Dec. 16, 2019, WCPSS board meeting. Also, MVP requires a recurring printing fee for one-time-use workbooks, which are discarded after each semester. There are also expenses related to ongoing professional development for teachers who are teaching MVP math.

TRACKING TEXTBOOK EXPENDITURES

Sandy Joiner, parent of a WCPSS high school student in Cary, would like to know how the school system spent the remaining funds for textbooks during the last 11 years.

“Where did the textbook allotment money go?” she asks. “Can it be tracked past the school level? We could have bought a math textbook for every Math 1, 2 and 3 student in Wake County with the allotment money, and the textbooks could have been used for years.”

Joiner is not the only parent asking this question. On July 15, 2019, a post to the private Facebook group “Parents of MVP Math Students in WCPSS” containing the same public information referenced in this story, netted 114 comments. Because this is a private group, Carolina Parent will not publish the comments, but group owner Blain Dillard, parent of a Green Hope High School student who took Math 2 last year and who will be taking Math 3

this spring, confirms that many of the comments mirror Joiner’s concerns. As of Nov. 8, 2019, the group had 2,043 members.

In response to a different parent’s*** public request for information on how WCPSS’s textbook budget is spent, Simmons confirmed that this is not easily tracked and provided the following statement, which Yarbrough confirmed and gave Carolina Parent permission to include in this story: “More specifically, the school can use state textbook money allotted to them for different items, such as the printing of math materials and replenishment of science materials, as well as expenses related to general classroom supplies and materials. While the total amount expended within the budget code that identifies the school is tracked centrally, the specific items purchased with the funding are not. This provides the schools that have different needs the flexibility to spend money on those different needs without seeking central approval for every purchase. The district can, of course, audit a school’s spending down to the dollar if or as needed, but that is not expected by policy or law.”

According to section 115C-98 of NCDPI’s public school laws, “Local boards of education shall have sole authority to select and procure supplementary instructional materials, whether or not the materials contain commercial advertising, to determine if the materials are related to and within the limits of the prescribed curriculum, and to determine when the materials may be presented to students during the school day. Supplementary materials and contracts for supplementary materials are not subject to approval by the State Board of Education. Supplementary books and other instructional materials shall neither displace nor be used to the exclusion of basic textbooks.”

Carolina Parent contacted WCPSS to request examples of some of the specific items schools spent the remaining textbook funds on but, as of press time for this issue, we had not received a response. We will update this story online if and when we receive that information.

WHAT ARE OTHER SCHOOL SYSTEMS AND PRIVATE/PREP SCHOOLS AND DOING?

According to the most recent U.S. Census Bureau, there were 14,000 school districts in the U.S. in 2010. (This number is likely much higher now, since this data is almost 10 years old.) WCPSS is the state’s largest and nation’s 15th largest school system. Janet Sutorius, co-founder of MVP, reported in September 2019 that the number of U.S. school districts using MVP is “at least 50” and that “this number is growing.”

So if the number of U.S. school districts using MVP amounts to less than 0.4%, what math curriculum are other large school systems using?

A joint U.S.-Korea workshop that took place in July 2012 titled, “Mathematics Curriculum, Teacher Professionalism, and Supporting Policies in Korea and the United States,” sheds light on this subject. A summary report from the workshop, held by the U.S. National Commission on Mathematics Instruction and Seoul National University, states that three major publishers — Pearson, Houghton Mifflin Harcourt, and McGraw-Hill Education — “dominated” the math curriculum market at that time, claiming 90% of textbook sales.

The report also states that in 1989 the National Council of Teachers and Mathematics (NCTM) developed standards for math curriculum reform created in response to a federally commissioned report produced in 1983 called “A Nation at Risk.” Key features of those standards included: “increased attention to conceptual understanding, problem solving and reasoning; and decreased attention to the teaching of rote procedures.”

***This parent wishes to remain anonymous.

This reform may have planted the seeds for what would soon lead to the next big math curriculum reform: the Common Core State Standards, which began to spread across the country in 2009.

Not long after, all three of the nation's largest math curriculum publishers — Pearson, Houghton Mifflin Harcourt, and McGraw-Hill Education — began offering Common Core textbooks and worksheets in fulfillment of those standards and to retain their hold on the market. Common Core landed in North Carolina in 2010 and by 2012, it had been implemented in 45 states. Eureka Math is another Common Core-aligned curriculum currently in use by some school districts in states such as New York, Louisiana and Tennessee.

Business Insider's list of the most elite boarding schools, such as Phillips Exeter Academy, Groton School and Milton Academy, typically follow a traditional high school math curriculum that teaches algebra I, geometry, algebra II, trigonometry, precalculus and advanced math subjects, such as college-level calculus, integrated math, statistics and data analysis. Most, if not all of these classes, are also offered at top prep high schools across the country, according to information provided by the schools. Examples of these high schools, according to Forbes' list of 20 best prep schools and Niche's list of 3,903 private secondary schools include (in addition to Phillips Exeter Academy) Phillips Academy, Harvard-West Lake, Trinity School and Chaote Rosemary Hall.

Locally, many private schools are also following a traditional math curriculum. Cary Christian School uses Larson Texts for algebra 1 and geometry, and Forester Math Books for algebra 2, trigonometry and pre-calculus. Trinity Academy in Raleigh uses Prentice Hall Mathematics textbooks for algebra 1, geometry and algebra 2.

WCPSS EXPECTED TO BE MEETING COMMON CORE STANDARDS

Prior to choosing MVP in 2016, WCPSS considered one other curriculum: McGraw Hill Education's Core-Plus. After choosing MVP, procurement of the curriculum began, and it was implemented for Math 1 in time for the 2017-18 school year. As we reported in part one of this series, both Cook and Michelle Tucker, director of K-12 mathematics for WCPSS, believe MVP aligns to the Common Core State Standards.

"NCTM has guiding principles that establish how students should interact with math and then the principles of instructional practices for how teachers should then deliver instruction," Tucker says. "And so when we look at the core curriculum of MVP, it aligns to what those standards are. There are what NCTM defines as the expected teaching practices, so we're excited to see those things come alive for both our teachers and our students in the classroom."

NCDPI adopted the Common Core State Standards in 2010 and, soon after, adjusted end-of-course Math 1, Math 2 and Math 3 tests to align to those standards. Since WCPSS administrators agree that MVP aligns to the Common Core State Standards, the expectation has been that students will perform well on the Math 1 and Math 3 state tests (there is currently not a state test for Math 2). In part three of this series, we'll look into whether or not that has happened.

Beth Shugg is the editor of Carolina Parent and a mother of three children, none of whom were impacted by MVP math. Email comments and feedback to her at bshugg@carolinaparent.com.

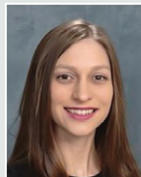


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