

MCCPTA CURRICULUM COMMITTEE
Meeting Minutes, January 14, 2008

Math Curriculum Overview by MCPS Associate Superintendent Erick Lang and MCPS Math Program Supervisor Leah Quinn

Erick Lang provided introductions and then Leah Quinn provided most of the content of the meeting with a presentation that focused on the history of MCPS math curriculum revisions and a description of the current state of the curriculum. Following the presentation, parents raised a number of curriculum concerns. **The PowerPoint presentation is available on the Curriculum Committee page of the MCCPTA website.**

- I. History of the MCPS Math Curriculum Revisions
 - a. In 1999, Phi Delta Kappa audited the MCPS Math Curriculum. Four key recommendations from the math curriculum audit were presented to the Board of Education in the Fall of 2000:
 1. Restructure curriculum policies to address the achievement gap between white and minority students
 2. Align curriculum content to ensure consistency of delivery throughout the county
 3. Make better use of assessment data to inform instructional decisions
 4. Improve staff development to prepare teachers to deliver the curriculum
 - b. An IFA Curriculum Policy was issued in 2001, specifying that the MCPS written curriculum should be reflected in what is taught in the classroom and what is assessed during testing
 - c. The K-8 Math Framework was adopted in June 2001, based on NCTM standards, national standards, Singapore math, and MD State Dept. of Education standards.
 - d. The High School Framework for Algebra I and Geometry was developed in 2002
 - e. From 2003-2006, frameworks have been reviewed by external authorities, including the Council for Basic Education
 - f. In 2006, College Board Standards were incorporated into the MCPS Math Curriculum framework.
- II. College Board Standards
 - a. Before 2006, the College Board published standards for college success. Schools started to work backwards from those standards to help students from middle school and onwards to be able to be successful in college.
 - b. The MCPS math curriculum assumes students will complete math instruction through the pre-calculus level, though courses in statistics and two levels of AP calculus are offered. Exceptionally advanced students may take college level courses while in high school.
- III. Grade level expectations
 - a. Math curriculum content is sequenced throughout a student's career, starting with instructing students to recognize patterns and relationships between numbers, then to apply rules, then to represent functions that display patterns and rules.

- b. Achieving math proficiency means “understanding, computing, applying, reasoning and engaging.”
 - c. Computation expectations for MCPS include having students progress from an ability to understand relationships between concrete objects, to understand and master basic facts and fact families, and finally be able to compute rational numbers.
- IV. Grade level achievement targets
- a. By 2010, 80% of MCPS eighth grade students should be taking Algebra I.
 - b. By 2010, 45% of 5th graders should be taking Math A.
 - c. Grade level targets have been set based on assessment results.
- V. Data presented by the Math Curriculum team
- a. MCPS students do better on HSAs than all Maryland students statewide.
 - b. 2003-04 data show that ½ of eighth graders who took Algebra I went on to take Geometry.
 - c. More and more students are taking Calculus each year.
 - d. ½ of students who take AP Calculus courses actually take the AP exam.
- VI. Concerns raised by parents who attended the meeting
- a. Time for mastery of discrete math subjects is shortened, so students don’t have enough time to master the content.
 - b. Calculators, while permitted on HSA tests, should be used to teach concepts, not to teach computation.
 - c. Third, fourth and fifth graders don’t have time in the instructional day to master basic facts.
 - d. The “Spiral Learning” concept causes students to jump around a lot of topics, rather than mastering basic facts before moving on to more complex work.
 - e. MCPS is placing too much emphasis on student acceleration, and allows students to be accelerated if parents insist. However, not all students are ready for acceleration. Students should be required to pass an assessment before being moved onto an accelerated track.
 - f. Some parents think students are being pushed ahead too fast in order to help schools meet aggressive acceleration targets.
 - g. Many parents feel they need to supplement instruction through extra drilling at home or outside tutoring. Has MCPS conducted a survey to find out how many families across socioeconomic groups seek outside tutoring for math and other subjects?
 - h. Anecdotal information from MD math professors seems to indicate that many Maryland high school graduates matriculating to Maryland colleges and universities do not meet the standards for taking college level math. Many Maryland students have to take remedial math before they are able to take college level math course.
 - i. One parent asked if there is a way to track how well MCPS graduates do at Montgomery College and other institutions. This is not yet possible, as there is no unique student identifier in place to track students from MCPS into Maryland state colleges and universities.