MONTGOMERY COUNTY PUBLIC SCHOOLS

Accountability Update

February 2009 Applied Research Unit

Closing the Gap: Seven Keys to College Readiness for Students of all Races/Ethnicities

by

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Nationally, many students who earn a high school diploma do not have the knowledge and skills needed to succeed in postsecondary college and work training programs (ACT 2008; Boser & Burd, 2009; National Center for Public Policy and Higher Education, 2008; Strong American Schools, 2008). About one third of high school graduates are required to take remedial classes upon entry to college (Associated Press, 2008; Boser & Burd, 2009; Maryland Higher Education Commission, 2008; National Center for Education Statistics, 2003; National Center for Public Policy and Higher Education, 2008). While more than 50% of high school graduates who enter college attain a degree within six years, only about 30% of high school graduates who must take remedial courses go on to earn a degree (Graves, 2008; Strong American Schools, 2008). The problem is worse among African American and Hispanic students (Maryland Higher Education Commission, 2008; National Center for Public Policy and Higher Education, 2008; Von Secker, 2008).

The racial/ethnic disproportionalities in college and career readiness observed nationally also are observed among Montgomery County Public Schools (MCPS) graduates (Table A1). The beginnings of racial/ethnic gaps in achievement are evident as early as kindergarten and Grade 2 and continue through middle and high school (Von Secker 2005b, 2006a, 2006b, 2007a, 2007b; Von Secker & Zhao, 2006; Von Secker, Zhao, & Powell, 2008). Closing these gaps in primary grades, and monitoring these gaps throughout elementary and middle school, is essential for preparing all students to be successful in college and the workplace (ACT, 2008).

The MCPS college readiness trajectory identifies seven keys to attainment of the knowledge and skills needed for college and career readiness (Figure 1). MCPS developed the college readiness trajectory by looking backwards from the goal of college and career readiness

and linking successful attainment of one key with the likelihood of successful attainment of a subsequent key.

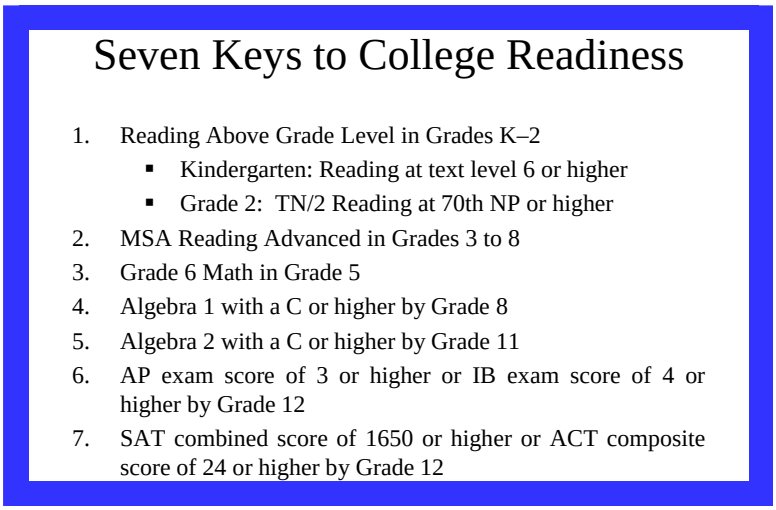


Figure 1. Seven keys to college readiness identified on the MCPS college readiness trajectory.

These keys are challenging, particularly for students who are English language learners or have learning disabilities. Nonetheless, MCPS is committed to providing all students with the instructional support they need to attain the seven keys and leave MCPS ready for college and the workplace.

The purpose of this document is to provide information that can be used to better understand the seven keys to college readiness. The following section compares the seven keys with their corresponding strategic plan targets. The section after that presents some of the research and analyses that were used to inform decisions about the selections of the current performance levels for each of the seven keys. The last section discusses some next steps that MCPS will take as the district uses the seven keys to monitor the college and work readiness of all students.

Performance Targets versus Keys

The MCPS strategic plan, *Our Call to Action: Pursuit of Excellence* identifies key performance targets that raise expectations and standards so that student and school performance will not be predictable by race/ethnicity (MCPS, 2008). The performance targets reflect the requirements of national, state, and local accountability mandates for high school graduation. Although all of the performance targets are rigorous, performance standards that place students on track for high school graduation may not be rigorous enough to place students on a trajectory to be competitive in a global economy (Kirst & Venezia,

2001; National Center for Public Policy and Higher Education, 2008; Strong American Schools, 2008; Venezia, 2001; Venezia, Kirst, & Antonio, 2003).

This section compares the seven keys to college readiness with their performance target counterparts in the MCPS strategic plan. Three of the seven keys are the same as performance targets that currently are, or are scheduled to be, monitored as part of the MCPS strategic plan. Three other keys overlap, but have more rigorous desired performance levels, than their current strategic plan counterparts. Only one of the seven keys currently is not monitored by the strategic plan.

Reading Keys to College Readiness

Performance Targets. MCPS expects all students to be reading on grade level beginning in kindergarten. MCPS uses a variety of local, state, and national assessments to monitor student attainment of reading performance in kindergarten to Grade 8. These assessments include the MCPS Assessment Program in Primary Reading (AP–PR), the *TerraNova* second edition (TN/2), and the Maryland School Assessment (MSA) Reading (Table 1). Elementary and middle school students currently meet desired on-grade reading benchmarks and targets if they—

- Meet MCPS primary reading benchmarks
  - Read at text level 4 or higher by the end of kindergarten
  - Score at or above the 50th national percentile (NP) on the TN/2 reading subtest in Grade 2
- Meet MSA Reading proficiency standards in Grades 3 to 8

Table 1
Comparison of Strategic Plan and College Readiness
Reading Performance Levels in Kindergarten to Grade 8

Grade(s)	On-Grade Performance Level	Above-Grade Performance Level
Kindergarten	Text level 4[a]	Text level 6[a]
2	50th NP or higher[b]	70th NP or higher[b]
3 to 8	Proficient or Advanced[c]	Advanced[c]

[a] The AP-PR is a local assessment developed by MCPS to monitor reading at text levels that range in difficulty from 1 (simplest) to 38. The strategic plan performance target for this benchmark is not yet set.

[b] The TN/2, published by CTB/McGraw-Hill, is a norm-referenced, standardized assessment that is used to compare the reading performance of MCPS Grade 2 students with Grade 2 students nationwide. The national average for the TN/2 reading subtest is the 50th NP. The strategic plan performance target for this benchmark is not yet set.

[c] The MSA Reading is a criterion-referenced standardized assessment that is used to monitor attainment of state reading proficiency standards in Grades 3 to 8. MSA Reading proficiency levels are basic, proficient, and advanced.

Keys 1 and 2. Students who attain on-grade reading performance levels in kindergarten to Grade 8 may be college and career ready by the end of Grade 12. This likelihood is increased for students who exceed the on-grade performance levels and attain two keys to college and career readiness, namely—

- Surpass MCPS primary reading benchmarks
  - Read at text level 6 (versus 4) or higher by the end of kindergarten
  - Score at or above the 70th NP (versus 50th NP) on the TN/2 reading subtest in Grade 2
- Meet MSA Reading advanced (versus proficient) standards in Grades 3 to 8

Mathematics Keys to College Readiness

Performance Targets. MCPS expects students to be prepared for higher-level mathematics upon entry to high school. Two MCPS mathematics performance targets that monitor above-grade level mathematics acceleration are successful completion of Math 6 by the end of Grade 5 and successful completion of Algebra 1 by the end of Grade 8

Table 2
Comparison of Strategic Plan Targets and Keys to College Readiness for Mathematics in Grades 5 to 11

Grade	Strategic Plan Performance Target	Key to College Readiness
5	Successful Completion of Math 6[a]	Successful Completion of Math 6[a]
8	Successful Completion of Algebra 1 with a D or Higher[b]	Successful Completion of Algebra 1 with a C or Higher[b]
11	--	Successful Completion of Algebra 2 with a C or Higher[c]

[a] To successfully complete Math 6, students are required to meet the on-grade proficiency standard on the unit assessments developed by MCPS.

[b] To successfully complete Algebra 1 by the end of Grade 8, students must earn required marks each of two semesters of Algebra 1 (Algebra 1A and Algebra 1B) and pass the semester 2 countywide semester examination for Algebra 1B.

[c] To successfully complete Algebra 2 by the end of Grade 11, students must earn marks of C or higher each of two semesters of Algebra 2 (Algebra 2A and Algebra 2B). The MCPS strategic plan performance targets currently do not monitor Algebra 2 completion.

Keys 3, 4, and 5. Three keys to college readiness overlap or extend MCPS goals for high school preparedness (Table 2). Key 3, completion of an accelerated mathematics class (Math 6) by the end of Grade 5, has the same desired performance level as the target monitored as part of the MCPS strategic plan. Key 4, successful completion of Algebra 1 with a C or higher by the end of Grade 8 is

more rigorous than the current strategic plan target (D or higher). Key 5, completion of Algebra 2 with a C or higher by the end of Grade 11, currently is not monitored by the MCPS strategic plan.

Grade 12 Outcomes and College Readiness

The skills that are needed for success in the first year of college are the same as those needed to be successful in work place employment that offers career advancement opportunities (ACT, 2006; Boser & Burd, 2009). MCPS expects graduates to demonstrate their preparedness for postsecondary education and careers (MCPS, 2008).

Performance Targets and Keys 6 and 7. Two strategic plan performance targets MCPS uses to monitor student attainment of college and career readiness are the same as keys 6 and 7 on the college readiness trajectory (Table 3). To attain Key 6, students must earn a score of 3 or higher on an Advanced Placement (AP) exam, or a score of 4 or higher on an International Baccalaureate (IB) exam. To attain Key 7, students must earn an SAT combined score of 1650 or higher or an ACT composite score of 24 or higher.

Table 3
Comparison of Strategic Plan Targets and Keys to College Readiness for MCPS Grade 12 Students

Grade	Strategic Plan Performance Target	Key to College Readiness
12	Earn an AP score of 3 or an IB score of 4	Earn an AP score of 3 or an IB score of 4
12	Earn an SAT score of 1650 or an ACT score of 24	Earn an SAT score of 1650 or an ACT score of 24

Note. AP and IB exams measure performance in college level courses offered during high school. AP and IB exams are scored on scales of 1 to 5 and 1 to 7, respectively. The SAT and ACT are college entrance exams with score ranges of 600 to 2400 and 1 to 36, respectively.

AP and IB examinations are criterion-referenced assessments that measure student performance in college level courses that are taught as part of the regular MCPS high school program. AP and IB exam scores are reported in increments of 1 on scales that range from 1 to 5, and 1 to 7, respectively. Students who earn AP exam scores of 3 or higher or IB exam scores of 4 or higher may be awarded course credit upon entry to college.

The SAT and ACT are norm-referenced college entrance examinations that are used by colleges and universities to assess the relative college readiness of their applicants compared with test takers nationwide. SAT scores are reported in increments of 10 on scales of 200 to 800 for each of the critical reading, math, and writing subtests. ACT composite scores are reported in increments of 1 on a scale of 1 to 36.

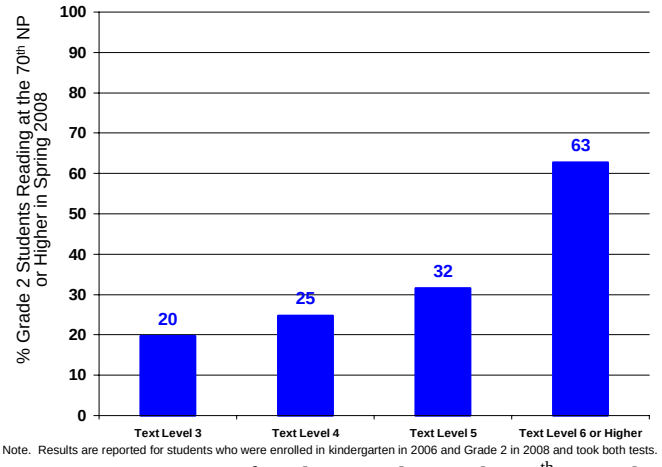
SAT and ACT scores are not statistically equivalent. However, an SAT combined score of 1650 (an average of 550 on each of the three subtests) corresponds to an ACT composite score of 24. Students who attain these scores are unlikely to be required to take remedial coursework upon entry to college.

Selecting College Readiness Trajectory Performance Levels

The performance levels associated with each data point on the college readiness trajectory were selected after examination of the literature related to college readiness for students nationwide and analysis of patterns of achievement outcomes for MCPS students. The following section presents some of the research and analyses that were used to inform MCPS decisions about the performance levels that are associated with each data point on the college readiness trajectory.

Primary Reading—Kindergarten

MCPS expects all kindergarten students to be able to read at text level 4 or higher. Kindergarten students who read at text level 4 are likely to be reading at the 50th NP or higher on the TN/2 two years later in Grade 2 (Zhao &Von Secker, 2008). However, kindergarten students who read at text level 4 are unlikely to be reading at the 70th NP or higher on the TN/2 in Grade 2, the level associated with college and work readiness (Figure 2).



Note. Results are reported for students who were enrolled in kindergarten in 2006 and Grade 2 in 2008 and took both tests.

Figure 2. Percentage of students reading at the 70th NP or higher on the TN/2 reading subtest by kindergarten text level attainment.

Text level 6 is more challenging than text level 4. Kindergarten students who are reading at or above text level 6 are more likely to score at or above the 70th NP on the Grade 2 TN/2 reading subtest, the above-grade performance level on the college readiness trajectory.

Among a cohort of students who took both tests, 63% reading at text level 6 or higher in kindergarten in 2006 also were reading at the 70th NP or higher on the TN/2 reading subtest in Grade 2 in 2008. In contrast, 25% of students who were reading at text level 4 at the end of kindergarten in 2006 were reading at the 70th NP or higher on the TN/2 reading subtest at the end of Grade 2 in 2008.

Primary Reading—Grade 2

MCPS expects all students to be reading at or above the 50th NP on the TN/2 reading subtest administered in Grade 2. Students who score at or above the 50th NP on the TN/2 are likely to score proficient or advanced on the Grade 3 MSA Reading (Zhao & Von Secker, 2008). However, Grade 2 students who score below the 70th NP on the TN/2 reading are unlikely to score advanced on the Grade 3 MSA Reading, the level associated with a greater likelihood of college readiness (Figure 3).

Among a cohort of students who took both tests, 45% of Grade 2 students who scored at the 70th NP or higher on the TN/2 reading subtest in 2007 also scored advanced on the Grade 3 MSA Reading in 2008. In contrast, 13% of Grade 2 students who scored between the 50th NP and 69th NP on the TN/2 reading subtest in 2007 scored advanced on the Grade 3 MSA Reading in 2008. Only 2% of Grade 2 students who scored below the 50th NP on the TN/2 reading subtest in 2007 scored advanced on the Grade 3 MSA Reading in 2008.

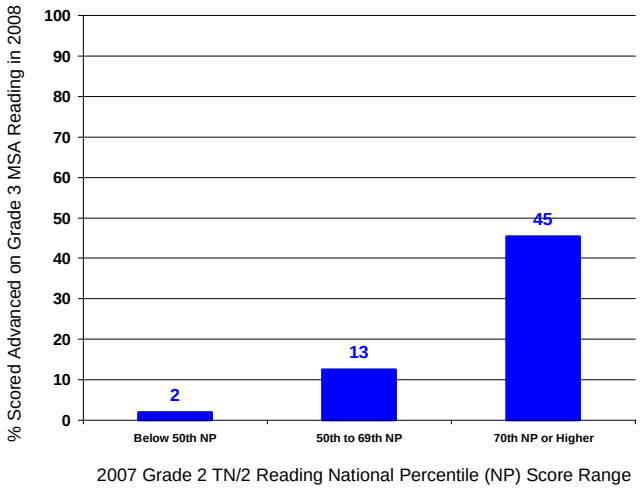


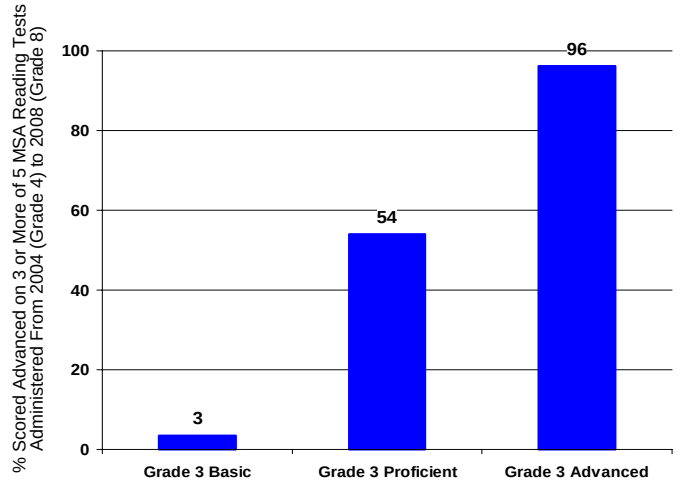
Figure 3. Percentage of Grade 3 students who scored advanced on the MSA Reading in 2008 by Grade 2 TN/2 reading NP score range in 2007.

MSA Reading in Grades 3 to 8

Because MSA Reading proficiency levels are not equated from grade to grade, students with reading scores close to the cut point between proficient and advanced in Grade 3 may score advanced on easier tests and proficient on more difficult tests administered in subsequent grades. Although the tests vary in difficulty, MSA Reading advanced performance is a relatively consistent measure of above-grade performance.

Figure 4 presents results of a longitudinal analysis of a cohort of continuously enrolled students who took the MSA Reading for their grade level each year between 2003, when students were in Grade 3, and 2008, when the same students were in Grade 8. That analysis revealed that reading at an advanced level on the MSA Reading administered in 2003 (Grade 3) was strongly correlated with reading at advanced levels on MSA Reading tests administered from 2004 (Grade 4) through 2008 (Grade 8).

Nearly all (96%) of students who scored advanced on the MSA Reading in Grade 3 also scored advanced on at least three of the five MSA Reading administrations between 2004 and 2008. More than one half of students who scored proficient on the MSA Reading in Grade 3 in 2003 "caught up" and scored advanced on three or more of the five MSA Reading administrations between 2004 and 2008. In contrast, 3% of students who scored basic on the Grade 3 MSA Reading scored advanced three or more times on the MSA Reading tests administered over the next five years.

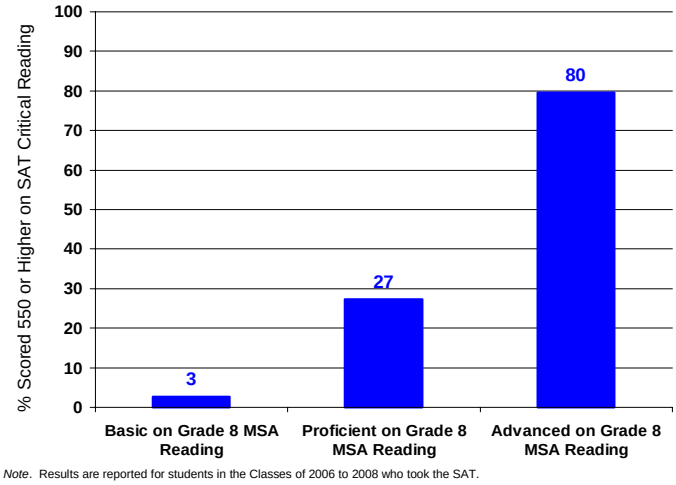


Note. Results are reported for students who were enrolled in Grade 3 in 2003, remained enrolled in MCPS from Grade 3 (2003) to Grade 8 (2008), and took the MSA Reading for their grade level every year between 2003 (Grade 3) and 2008 (Grade 8).

Figure 4. Percentage of continuously enrolled students who scored advanced three or more times on five MSA Reading tests administered from 2004 (Grade 4) to 2008 (Grade 8) by Grade 3 MSA Reading proficiency level.

Grade 8 MSA Reading Performance and College Readiness

Academic attainment by the end of Grade 8 is strongly correlated with college readiness by the end of Grade 12 (ACT, 2008). Performance on the Grade 8 MSA Reading is an early indicator of SAT performance in critical reading (Figure 5).



Note. Results are reported for students in the Classes of 2006 to 2008 who took the SAT.

Figure 5. Percentage of students who scored 550 or higher on the SAT critical reading subtest by Grade 8 MSA Reading level.

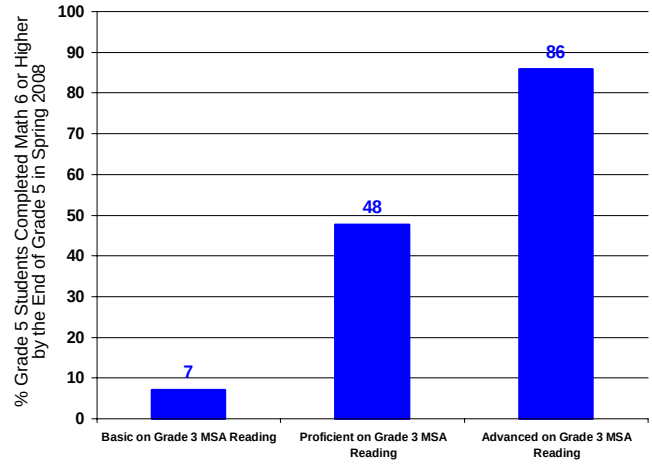
Examination of results for the MCPS Classes of 2007 and 2008 revealed that 80% of SAT test takers with Grade 8 MSA Reading scores in the advanced range earned SAT critical reading scores of 550 or higher, the level expected for a student who would earn an SAT score of 1650 or an ACT score of 24. In contrast, 27% of SAT test takers with Grade 8 MSA Reading scores in the proficient range and 3% of SAT test takers with Grade 8 MSA Reading scores in the basic range earned SAT critical reading scores of 550 or higher.

Linking Reading and Mathematics Keys to College Readiness

College readiness in the primary years focuses on reading, with a goal of being able to attain MSA Reading scores of advanced as early as Grade 3. Although the college readiness trajectory does not include MSA Mathematics performance levels, students who score advanced on the MSA Reading in one grade are more likely to score advanced in reading and mathematics in subsequent grades (Rethinam & Schatz, in press; Schatz & Gheen, 2007; Schatz, Gheen, & Rethinam, 2007).

Students who read at advanced levels by the end of Grade 3 also are likely to develop cognitive skills that prepare them for accelerated mathematics in Grade 5 (Figure 6). In 2008, 86% of Grade 5 students

who scored advanced on the Grade 3 MSA Reading in 2006 also successfully completed Math 6 or higher. In contrast, 48% of students who scored proficient and 7% of students who scored basic on the Grade 3 MSA Reading in 2006 successfully completed Math 6 or higher by the end of Grade 5 two years later.

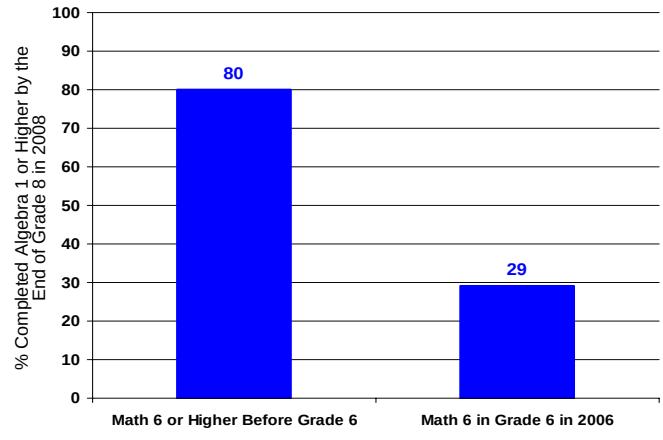


Note. Results are reported for students enrolled in Grade 3 in 2006 and Grade 5 in 2008 who took Grade 3 MSA Reading.

Figure 6. Percentage of Grade 5 students who completed Math 6 or higher in 2008 by Grade 3 MSA Reading level in 2006.

Accelerated Mathematics in Grade 5 and Algebra Completion

Students who successfully complete Math 6 in Grade 5 are more likely to continue to take accelerated mathematics courses upon entry to middle school (Figure 7). Among a cohort of MCPS students who were enrolled in Grade 6 in 2006 and Grade 8 in 2008, 80% who completed Math 6 prior to Grade 6 also completed Algebra 1 or higher. In contrast, 29% of Grade 8 students who did not successfully complete Math 6 prior to Grade 6 successfully completed Algebra 1.



Note. Results are reported for students who were enrolled in Grade 6 in 2006 and Grade 8 in 2008.

Figure 7. Percentage of Grade 8 students who completed Algebra 1 by Grade 6 mathematics level.

Algebra 1 Performance and College Readiness

Students who complete Algebra 1 by the end of Grade 8 are more likely to earn SAT math scores of 550 or higher than students who take Algebra in high school (Von Secker, 2005a). However, Algebra 1 course marks, as well as grade level, are important indicators of college and work readiness (Figure 8).

Analysis of course taking patterns of the MCPS Classes of 2006 to 2008 revealed that 82% of SAT test takers who completed Algebra 1 by the end of Grade 8 with course marks of A or B, and 46% of test takers who completed Algebra 1 by the end of Grade 8 with a course mark of C, earned SAT math scores of 550 or higher. In contrast, only 29% of SAT test takers who completed Algebra 1 by the end of Grade 8 with marks of D or E earned SAT math scores of 550 or higher.

Students may earn SAT math scores of 550 or higher if they complete Algebra 1 in Grade 9 or later (Figure 8). However, even if they earn course marks of C or higher in Algebra 1, these high school Algebra 1 students are more likely to need additional support to develop the thinking skills that are measured by the SAT math test.

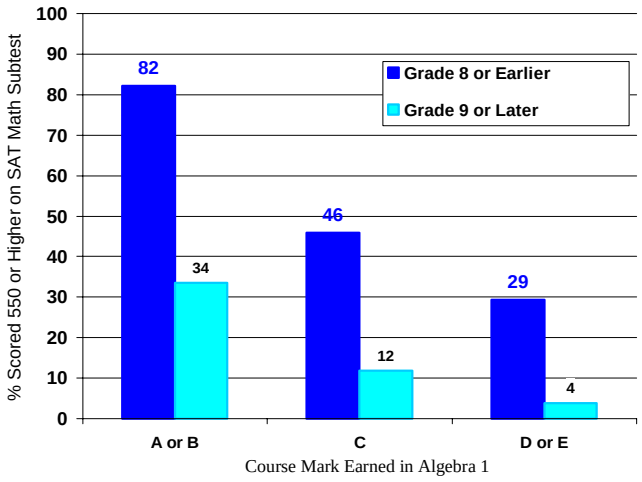


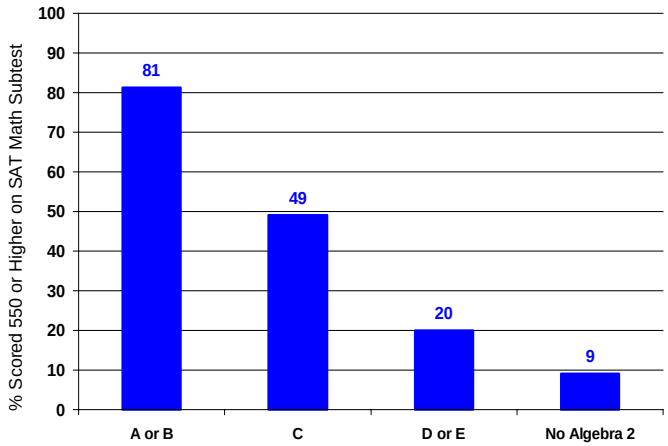
Figure 8. Percentage of SAT test takers in the MCPS Classes of 2006 to 2008 who scored 550 or higher on the SAT math subtest by grade level completed Algebra 1 and Algebra 1 course mark.

Algebra 2 Performance and College Readiness

Students who complete high school mathematics through the level of Algebra 2 have the content background needed to do well on the SAT math sections (College Board, 2005; Deng & Kobrin, 2007; Horn &

Nuñez, 2000). However, course completion alone provides insufficient preparation because the SAT assesses mathematical reasoning skills as well as content knowledge. Students who earn a C or higher in all of their high school mathematics courses are more likely to earn scores of 550 or higher on the SAT math (Fong, Huang, & Goel, 2008; Von Secker & Liu, 2009).

Most graduates who take the SAT or ACT do so in spring of Grade 11 or fall of Grade 12. Analysis of course taking patterns of the MCPS Classes of 2006 to 2008 revealed that 81% of SAT test takers who completed Algebra 2 by the end of Grade 11 with course marks of A or B, and 49% of test takers who completed Algebra 2 by the end of Grade 11 with a course mark of C, earned SAT math scores of 550 or higher (Figure 9). In contrast, 20% of SAT test takers who completed Algebra 2 by the end of Grade 11 with marks of D or E scored 550 or higher on the SAT math subtest. Less than 10% of SAT test takers who had not taken Algebra 2 earned SAT math scores of 550 or higher. Students who score below 550 on the SAT math may be required to take remedial math courses upon entry to college.

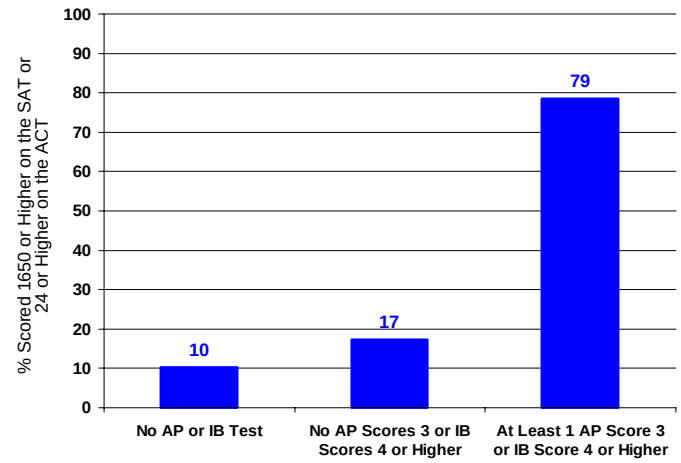


Note. Results are reported for students in the Classes of 2006 to 2008 who took the SAT.

Figure 9. Percentage of students who scored 550 or higher on the SAT math subtest by Algebra 2 course mark.

AP and IB Participation and Performance

MCPS encourages all students to challenge themselves to take at least one AP or IB exam by the end of Grade 12. AP and IB exam participation and performance are highly correlated with SAT and ACT performance. Students who take these exams are more likely to perform well in college and the workplace than students who have not taken these rigorous exams (Camara, 2003; Ewing, 2006; College Board, 2005; Hargrove, Godin, & Dodd, 2008; Scammacca & Dodd, 2005).



Note. Results are reported for students in the Classes of 2006 to 2008 who took the SAT.

Figure 10. Percentage of test takers with SAT combined scores of 1650 or higher or ACT composite scores of 24 or higher by AP/IB exam participation and performance level.

Among students in the Classes of 2006 to 2008, 79% of test takers who took one or more AP or IB exams and earned at least one AP exam score of 3 or higher or one IB exam score of 4 or higher also earned SAT combined scores of 1650 or higher or ACT composite scores of 24 or higher (Figure 10). About 17% of test takers who took an AP or IB exam and did not earn at least one score of at least 3 or 4, respectively, earned SAT/ACT scores of 1650/24 or higher. About 10% of SAT/ACT test takers who did not take an AP or IB exam earned SAT/ACT scores of 1650/24 or higher.

Next Steps

Although many MCPS graduates are college and work ready, the percentages of students who meet desired SAT and ACT performance level outcomes vary considerably among students of different races/ethnicities (Von Secker, 2008). MCPS has employed a Plan-Do-Study-Act (PDSA) process to find solutions to that problem. Over the past two years, MCPS has aligned action plans to focus on seven key performance targets that are critical leverage points for college readiness. Research conducted as part of the study phase of the PDSA improvement process has led to better understanding of the keys to the goal of college readiness and future success. As PDSA processes are implemented further, the seven keys may be modified or the levels of rigor associated with one or more of the seven keys may be increased.

Although the seven keys are useful for monitoring student progress, they should not be used to create a sense of certainty about students' college and work readiness. Performance on the seven keys provides only one source of information about how well students are meeting

and exceeding grade level expectations. Students who do not meet above-grade performance levels in one grade may "catch up" and perform at higher levels in subsequent grades. Opportunity to learn, targeted instruction, student motivation, and many other factors influence performance from one year to another. Parents, teachers, and school leadership should consider multiple sources of information, including evidence from day-to-day interactions with students, to identify individuals' strengths and adjust instruction appropriately.

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Table A1
2008 Status of MCPS Students on Seven Keys to College Readiness by Grade Level and Race/Ethnicity

Key to College Readiness	Grade Level	All		African Am.		Asian Am.		Hispanic		White	
		N Total	% Met Key	*N* Total	% Met Key	*N* Total	% Met Key	*N* Total	% Met Key	*N* Total	% Met Key
K–2 Reading											
Text Level 6 or Higher	K	9048	65.4	1884	58.5	1496	78.5	2078	42.3	3567	77.2
TN/2 70th NP or Higher	2	9700	44.9	2189	30.1	1554	52.3	2082	25.2	3855	61.0
MSA Reading											
Advanced	3	9504	22.3	2189	8.3	1454	31.4	1992	8.2	3836	34.4
Advanced	4	9617	38.0	2227	18.6	1457	52.9	1973	15.8	3932	54.6
Advanced	5	9751	60.8	2273	42.4	1509	74.0	2120	38.3	3826	79.0
Advanced	6	10068	55.4	2251	37.2	1548	68.7	2164	30.5	4077	73.7
Advanced	7	10131	55.8	2362	34.9	1478	71.6	2095	30.3	4162	75.0
Advanced	8	10195	49.1	2359	28.1	1512	63.7	2058	22.6	4239	68.3
Successful Completion of Math 6	5	9936	43.1	2309	25.1	1563	64.0	2196	22.8	3844	56.8
Algebra 1 with a C or Higher	8	10285	56.8	2354	34.1	1557	78.4	2110	34.0	4238	72.9
Algebra 2 with a C or Higher	11	10659	49.0	2422	28.5	1621	70.8	1996	24.7	4596	62.6
AP Exam 3 or IB Exam 4[a]	12	9876	47.4	2097	20.5	1513	62.3	1602	33.5	4632	59.6
SAT 1650 or ACT 24[b]	12	9876	37.6	2097	11.5	1513	51.4	1602	12.0	4632	53.9

Note 1. The total numbers of students for the K–2 and MSA Reading keys are based on the number of test takers. The total numbers of students for the Math 6, Algebra 1, and Algebra 2 keys are based on enrollment at each grade level. The total numbers of students for the AP/IB exam and SAT/ACT keys are based on the number of June graduates.

Note 2. American Indian students are included with all students but are not reported separately. District results include students enrolled in special schools.

[a] Graduates who met this key took at least one AP or IB exam and earned at least one an AP exam score of 3 or higher or one IB exam score of 4 or higher, or both during high school.

[b] Graduates who met this key took an SAT or ACT and had an SAT combined score of 1650 or higher or an ACT composite score of 24 or higher, or both..