



MAP Scores Report 2016-17

Key Findings

1. Proficiency rates and the percent of students meeting their expected growth targets increased across the past five years in both reading and math.
2. All student demographic and racial/ethnic groups had an increase in reading and math proficiency over the past five years span.
3. Proficiency gaps between demographic groups persist on MAP reading and math. These gaps are similar to disparities on other standardized tests.
4. The gaps in the percent of students meeting growth targets between demographic and racial groups are noticeably smaller than the gaps in proficiency rates.
5. All demographic groups saw an increase in the percent of students meeting their math growth targets across the past five years. Nearly all demographic groups also saw an increase in the percent of students meeting their reading growth targets, across the past five years.

Background

The Madison Metropolitan School District (MMSD) has administered the Measures of Academic Progress (MAP) test in grades 3-8 for the past five school years: 2012-13 through 2016-17. This report focuses on progress made on the percent of students testing proficient or higher in math and reading for spring administrations of the test, as well as the fall to spring growth of students during each of these school years. In 2015, the MAP assessment altered growth rate norms, which had an effect on the percent of students meeting their expected growth rate. To maintain a consistent comparison across all five years, this report uses the 2011 growth norms for all years.

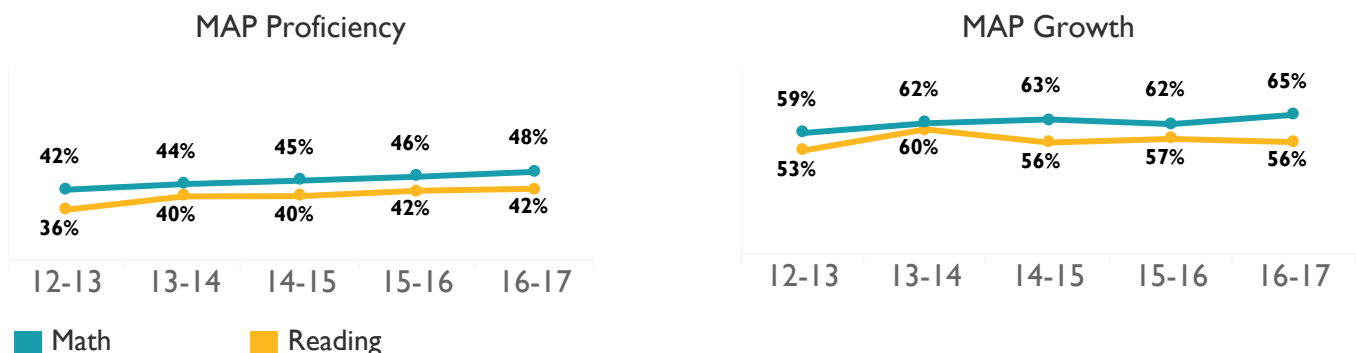
Data Notes

The data in this report comes from the spring testing windows for the MAP assessments given between the 2012-13 and 2016-17 school years. The majority of this report includes all student data for scores and growth, regardless of whether students took MAP exam in both the fall and spring and whether or not it was at the same school. This may differ from other reports, such as the Annual Report, which uses students with both a fall and spring score. The data in this report are separated into sections on MAP proficiency and growth rates. All MAP math scores are colored teal, while reading scores are colored orange. Appendix A contains more detailed information on MAP scoring and growth targets.

Overall District Performance

Both proficiency rates and the percent of students meeting their growth targets increased on both the MAP reading and math assessments. On the 2016-17 spring MAP test, 48% of students scored proficient on the math assessment, while 42% of students scored proficient in reading. In addition, 65% of students met their expected fall-spring growth targets on the math assessment, while 56% of students met their expected fall-spring growth targets on the reading assessment. Both proficiency rates and the rate of students meeting their growth targets increased across the past five years in both reading and math.

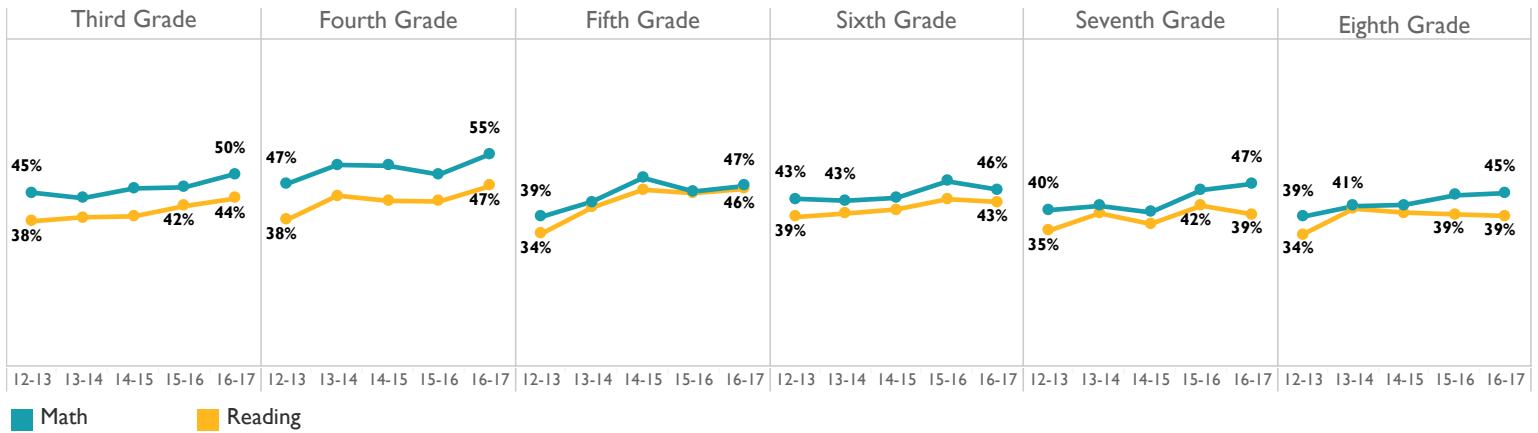
Figure 1: Five Year MAP Reading and Math Proficiency Rate Trends by School Year





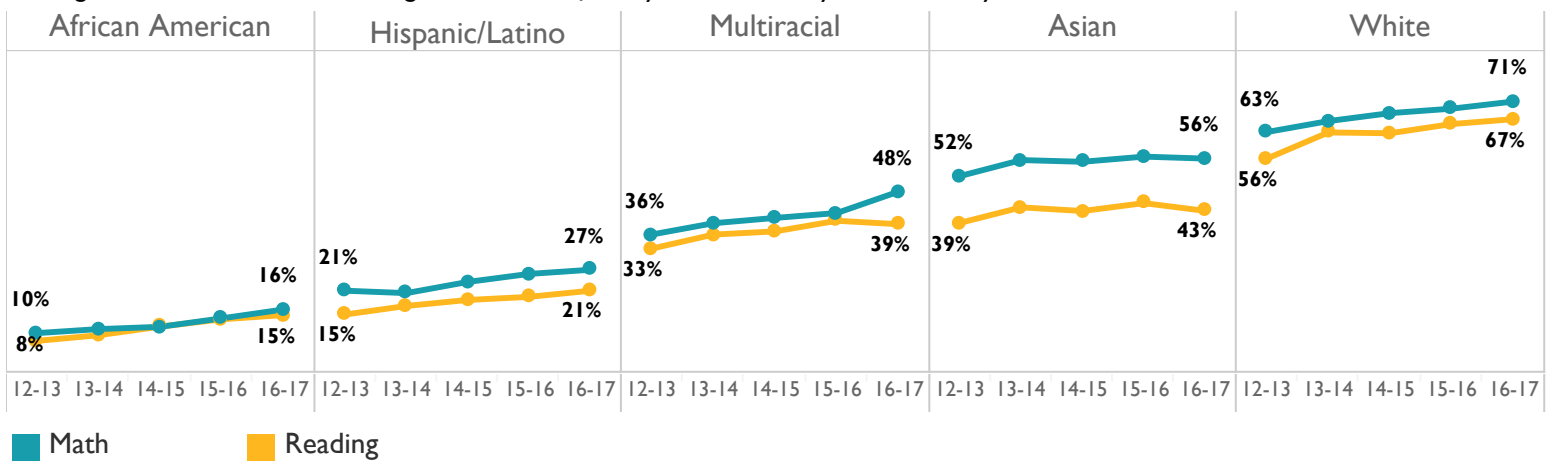
MAP Math and Reading Proficiency Rates

Figure 2: Five Year MAP Reading and Math Proficiency Rate Trends by Grade Level



MAP proficiency rates increased over five years across all grade levels for both MAP math and reading assessments. Similar to the five year trend at the district level, students across all grade levels had higher proficiency rates on the math assessment than the reading assessment. Students in elementary school had higher proficiency rates than middle school students in spring 2017.

Figure 3: Five Year MAP Reading and Math Proficiency Rate Trends by Race/Ethnicity

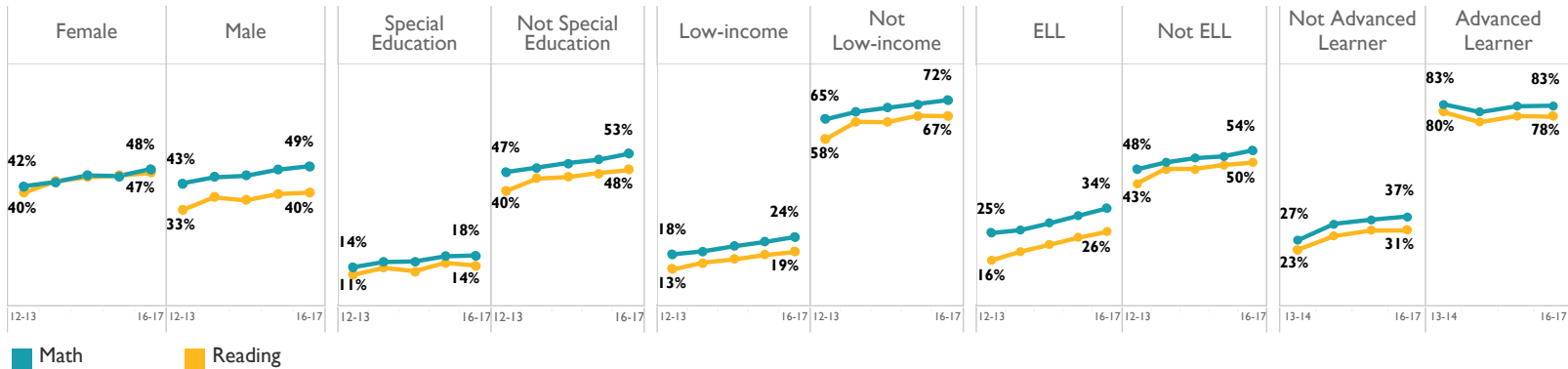


Proficiency rates on the reading and math assessments increased across all race/ethnicity groups. Students identifying as multiracial had the largest increase in math proficiency, while students identifying as white had the largest increase on reading proficiency rates. Students identifying as Asian had the smallest gains in proficiency, around 4% in both reading and math.

Large gaps in proficiency persisted across the years between students identifying as African-American and students identifying as white. The gap in math proficiency rates increased slightly from 53% to 55%, while the gap in reading proficiency remained at 52%.



Figure 4: Five Year MAP Reading and Math Proficiency Rate Trends by Other Student Demographics

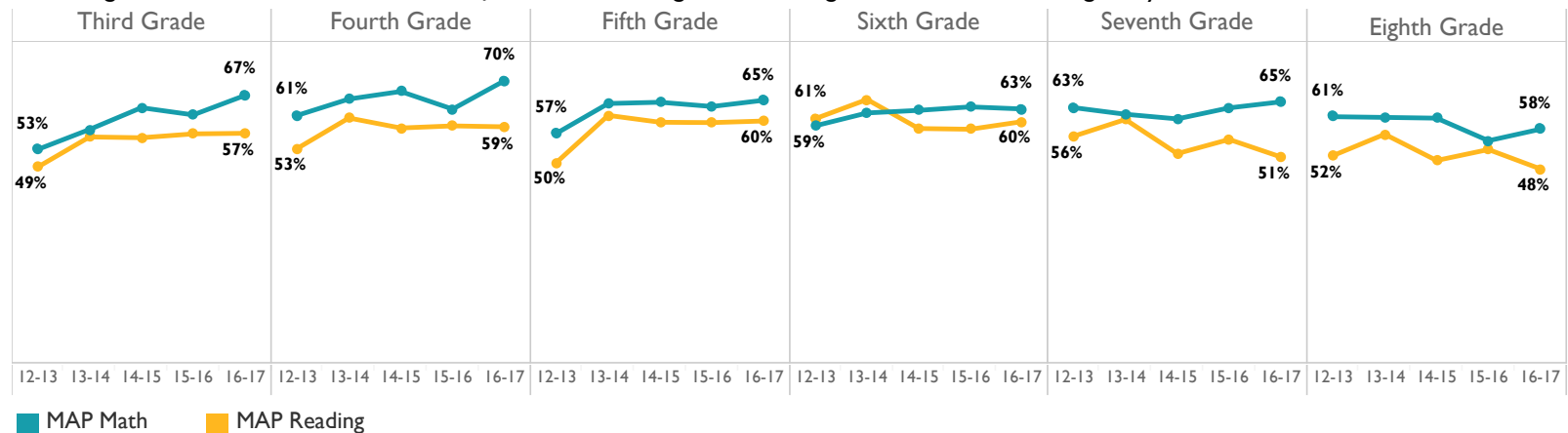


The Advanced Learner demographic group has a four year trend, instead of a five year trend because MMSD began identifying students as Advanced and Not Advanced Learner in 2013-14

Proficiency rates increased across almost all demographic groups, except among advanced learner students. English Language Learners had the largest increases in proficiency rates, with nearly double digit five year increases in both Reading and Math proficiency. Proficiency gaps between demographic groups persist on both MAP reading and math assessments. These gaps in achievement are similar to those found on other standardized tests and measures of student performance. While the gap in math and reading proficiency slightly increased among students receiving special education services and low-income students, proficiency gaps slightly decreased among English Language Learner students and non-advanced learners.

MAP Math and Reading Growth

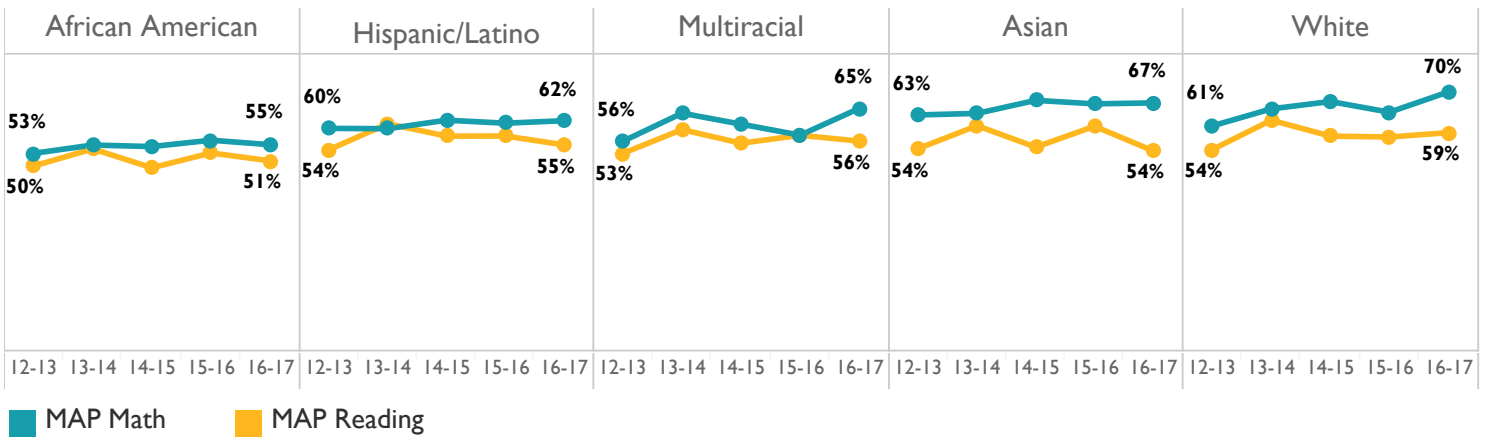
Figure 5: Five Year Trends in Rates of Students Meeting MAP Reading and Math Growth Targets by Grade Level



Similar to the trend at the district level, the percent of students meeting expected growth is more variable than proficiency rates at each grade level. There were increases in the percent of students meeting expected reading and math growth among elementary students, while there were decreases among middle school students. Across all grade levels, a greater percent of students met their expected growth targets than score proficient or higher.

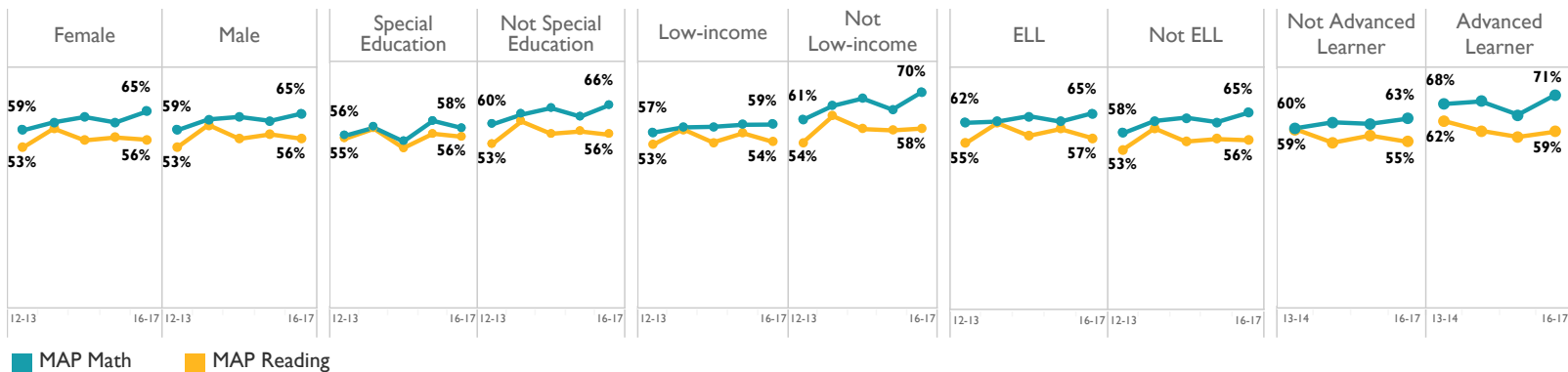


Figure 6: Five Year Trends in Rates of Students Meeting MAP Reading and Math Growth Targets by Race/Ethnicity



The percent of students meeting their expected growth targets were similar across all race/ethnicities, in contrast with proficiency rates. Across all race/ethnicities, there were larger increases in the percent of students meeting math growth targets. Students identifying as white had the highest percent of students meeting growth targets in reading and math, while students identifying as African-American had the lowest percent of students meeting growth targets. Students identifying as white also had the largest increases in students meeting both reading and math growth rates, while African American students had the smallest increase. The gap between white and African-American students meeting their expected growth target was noticeably smaller than the gap in proficiency.

Figure 7: Five Year MAP Reading and Math Proficiency Rate Trends by Other Student Demographic



*The Advanced Learner demographic group has a four year trend, instead of a five year trend.

The percent of students achieving their growth targets are more similar across student demographics than proficiency rates. Within the student demographic groups, the rate of students meeting growth targets also fluctuated more than proficiency rates. The percent of students meeting reading and math growth targets increased for all student demographics, except among advanced and not advanced learner students, who only had a four year trend.



MAP Math and Reading Proficiency by School

		MAP Math					MAP Reading				
		12-13	13-14	14-15	15-16	16-17	12-13	13-14	14-15	15-16	16-17
East	Emerson	25%	38%	38%	37%	44%	26%	40%	36%	39%	42%
	Gompers	27%	31%	26%	27%	32%	31%	40%	36%	33%	37%
	Hawthorne	21%	25%	32%	36%	27%	16%	18%	29%	30%	26%
	Lake View	33%	33%	26%	16%	32%	27%	28%	20%	19%	25%
	Lindbergh	25%	23%	29%	38%	37%	17%	22%	28%	36%	44%
	Lowell	48%	53%	55%	46%	52%	46%	56%	54%	54%	51%
	Marquette	63%	65%	62%	62%	67%	58%	55%	56%	58%	65%
	Mendota	19%	19%	20%	34%	32%	12%	17%	20%	27%	32%
	Sandburg	26%	33%	36%	34%	35%	19%	30%	27%	25%	27%
La Follette	Allis	17%	24%	24%	28%	28%	13%	21%	18%	18%	27%
	Elvehjem	54%	53%	63%	57%	62%	43%	39%	46%	51%	54%
	Glendale	24%	25%	32%	30%	44%	17%	20%	25%	27%	30%
	Kennedy	40%	41%	47%	48%	54%	35%	34%	34%	39%	42%
	Nuestro Mundo	30%	32%	38%	42%	43%	20%	25%	26%	36%	41%
	Schenk	24%	27%	37%	29%	26%	18%	24%	25%	26%	27%
Memorial	Chavez	51%	62%	62%	56%	69%	36%	51%	52%	54%	57%
	Crestwood	53%	56%	59%	49%	56%	46%	51%	53%	44%	58%
	Falk	17%	17%	19%	21%	33%	12%	12%	18%	25%	27%
	Huegel	31%	36%	45%	49%	55%	31%	34%	39%	43%	46%
	Muir	58%	58%	63%	58%	57%	48%	51%	44%	46%	49%
	Olson	50%	51%	51%	56%	54%	43%	50%	47%	47%	49%
	Orchard Ridge	25%	34%	36%	33%	34%	24%	34%	35%	33%	38%
	Stephens	61%	63%	62%	64%	56%	52%	55%	50%	50%	47%
West	Leopold	32%	27%	33%	28%	29%	24%	20%	24%	23%	24%
	Lincoln	36%	35%	36%	32%	40%	24%	29%	31%	29%	33%
	Randall	71%	73%	69%	68%	70%	62%	66%	69%	66%	67%
	Shorewood	86%	87%	87%	89%	84%	67%	73%	77%	85%	77%
	Thoreau	42%	48%	58%	55%	64%	41%	53%	55%	54%	56%
	Van Hise	72%	78%	77%	86%	84%	62%	70%	73%	76%	80%
All Elementary		43%	46%	48%	47%	50%	36%	40%	41%	42%	45%

		12-13	13-14	14-15	15-16	16-17	12-13	13-14	14-15	15-16	16-17
East	Black Hawk	23%	28%	29%	33%	36%	21%	27%	23%	24%	27%
	O'Keeffe	52%	53%	52%	53%	47%	47%	55%	51%	52%	49%
	Sherman	28%	27%	25%	27%	29%	24%	23%	23%	26%	29%
La Follette	Badger Rock	29%	30%	32%	22%	28%	26%	22%	21%	26%	20%
	Sennett	28%	31%	31%	35%	38%	24%	31%	29%	31%	33%
	Whitehorse	34%	32%	33%	43%	37%	25%	31%	30%	32%	28%
Memorial	Jefferson	46%	48%	42%	46%	42%	40%	45%	42%	40%	39%
	Spring Harbor	56%	48%	44%	48%	52%	45%	41%	43%	40%	47%
	Toki	29%	38%	38%	44%	45%	30%	33%	30%	41%	38%
West	Cherokee	36%	36%	32%	37%	38%	33%	33%	35%	35%	34%
	Hamilton	74%	72%	73%	75%	77%	65%	70%	68%	72%	66%
	Wright	23%	18%	22%	26%	28%	17%	13%	19%	22%	22%
All Middle Schools		41%	42%	41%	45%	45%	36%	39%	38%	41%	40%



MAP Math and Reading Growth by School

		MAP Math					MAP Reading				
		12-13	13-14	14-15	15-16	16-17	12-13	13-14	14-15	15-16	16-17
East	Emerson	51%	56%	58%	58%	71%	44%	55%	43%	53%	62%
	Gompers	44%	59%	40%	66%	71%	52%	71%	41%	56%	63%
	Hawthorne	58%	58%	68%	66%	52%	60%	45%	58%	58%	50%
	Lake View	66%	56%	70%	48%	58%	61%	58%	56%	61%	65%
	Lindbergh	67%	50%	68%	75%	66%	58%	61%	54%	56%	69%
	Lowell	63%	59%	64%	66%	67%	52%	62%	62%	50%	43%
	Marquette	69%	69%	57%	59%	73%	56%	48%	57%	46%	62%
	Mendota	55%	50%	56%	67%	65%	41%	58%	59%	58%	59%
	Sandburg	53%	70%	67%	62%	59%	46%	73%	63%	46%	53%
La Follette	Allis	47%	59%	56%	62%	70%	49%	65%	49%	59%	70%
	Elvehjem	56%	70%	74%	71%	78%	51%	53%	59%	58%	59%
	Glendale	42%	55%	63%	60%	75%	48%	53%	63%	63%	63%
	Kennedy	49%	62%	67%	64%	65%	46%	56%	54%	63%	61%
	Nuestro Mu..	54%	65%	70%	67%	64%	51%	71%	74%	76%	66%
	Schenk	60%	56%	64%	65%	56%	51%	51%	51%	53%	60%
Memorial	Chavez	58%	71%	75%	56%	71%	42%	70%	60%	55%	59%
	Crestwood	58%	57%	59%	54%	69%	56%	48%	49%	50%	66%
	Falk	36%	66%	51%	48%	59%	42%	68%	50%	58%	45%
	Huegel	59%	61%	68%	64%	81%	51%	56%	61%	60%	56%
	Muir	55%	65%	71%	60%	64%	49%	60%	62%	55%	52%
	Olson	43%	62%	59%	53%	67%	36%	53%	52%	58%	59%
	Orchard Rid..	50%	72%	61%	64%	64%	42%	73%	58%	55%	62%
	Stephens	65%	64%	79%	77%	66%	52%	58%	69%	56%	54%
West	Leopold	65%	59%	70%	62%	61%	60%	56%	58%	66%	57%
	Lincoln	65%	58%	60%	60%	66%	48%	62%	54%	61%	53%
	Randall	63%	68%	70%	64%	66%	54%	61%	64%	60%	59%
	Shorewood	65%	67%	74%	73%	73%	59%	63%	54%	68%	59%
	Thoreau	49%	59%	66%	67%	71%	52%	66%	73%	63%	61%
	Van Hise	62%	72%	57%	65%	81%	52%	63%	62%	66%	63%
	All Elementary	57%	63%	65%	63%	67%	51%	59%	58%	58%	59%

		12-13	13-14	14-15	15-16	16-17	12-13	13-14	14-15	15-16	16-17
East	Black Hawk	64%	66%	66%	65%	67%	54%	59%	54%	63%	57%
	O'Keefe	60%	68%	67%	60%	57%	57%	68%	48%	52%	50%
	Sherman	60%	59%	59%	62%	55%	54%	61%	60%	53%	55%
La Follette	Badger Rock	85%	70%	68%	38%	64%	42%	59%	69%	41%	56%
	Sennett	60%	65%	62%	67%	70%	56%	64%	54%	61%	63%
	Whitehorse	63%	63%	69%	59%	57%	60%	54%	54%	55%	42%
Memorial	Jefferson	53%	55%	52%	53%	53%	56%	60%	48%	50%	46%
	Spring Harb..	67%	61%	49%	66%	57%	59%	66%	53%	52%	47%
	Toki	54%	58%	57%	63%	59%	54%	61%	42%	56%	54%
West	Cherokee	64%	58%	58%	55%	62%	63%	56%	59%	54%	50%
	Hamilton	61%	63%	66%	60%	72%	53%	63%	56%	55%	57%
	Wright	71%	60%	63%	68%	64%	66%	61%	59%	68%	56%
All Middle	61%	62%	61%	61%	62%	56%	61%	54%	56%	53%	

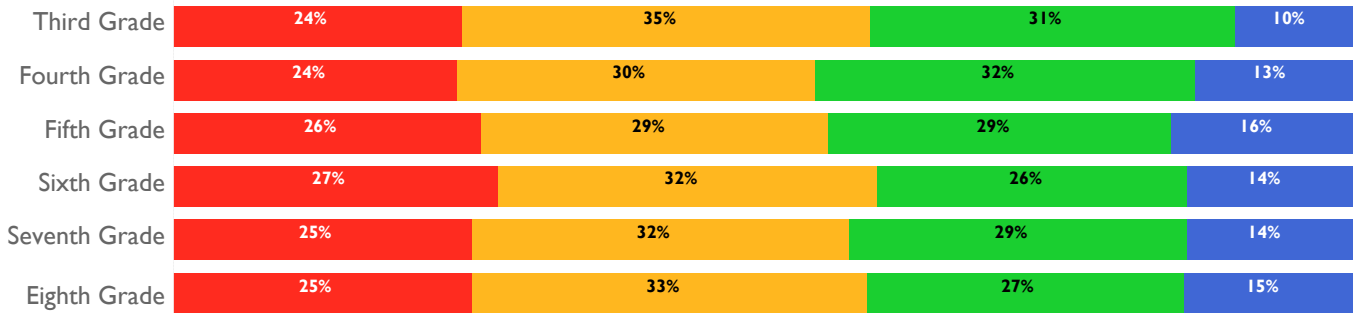


2016-17 MAP Math Results Breakdown

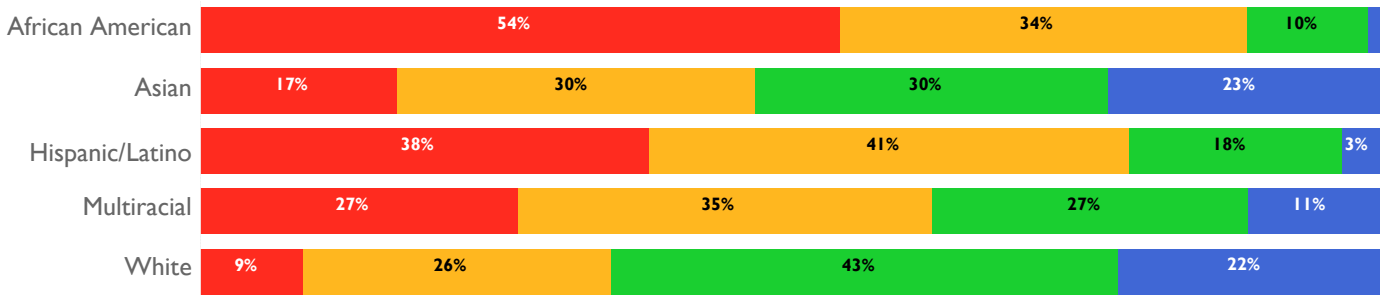
Overall MAP Math Results



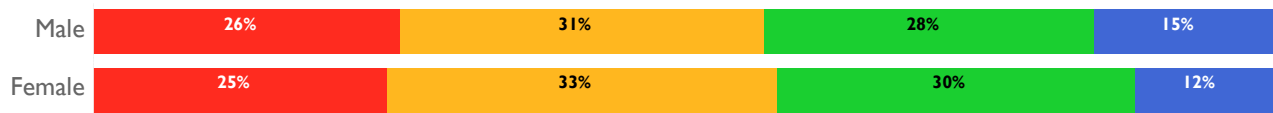
Grade Level



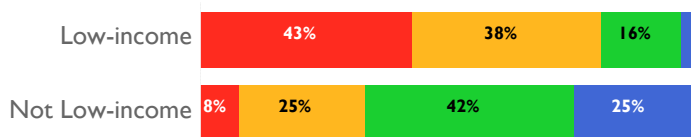
Race/Ethnicity



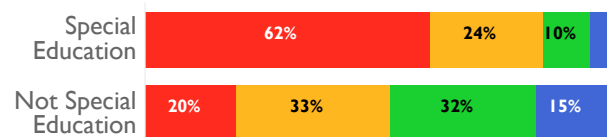
Gender



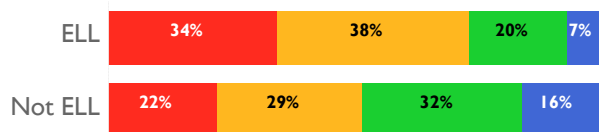
Low-Income Status



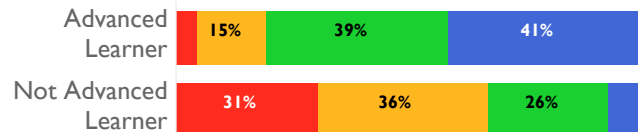
Special Education Status



English Language Learner



Advanced Learners



Minimal Basic Proficient Advanced

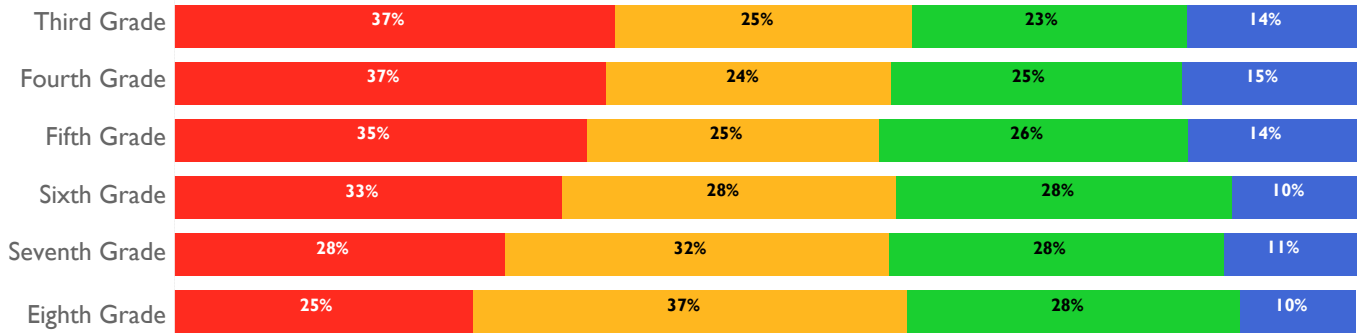


2016-17 MAP Reading Results Breakdown

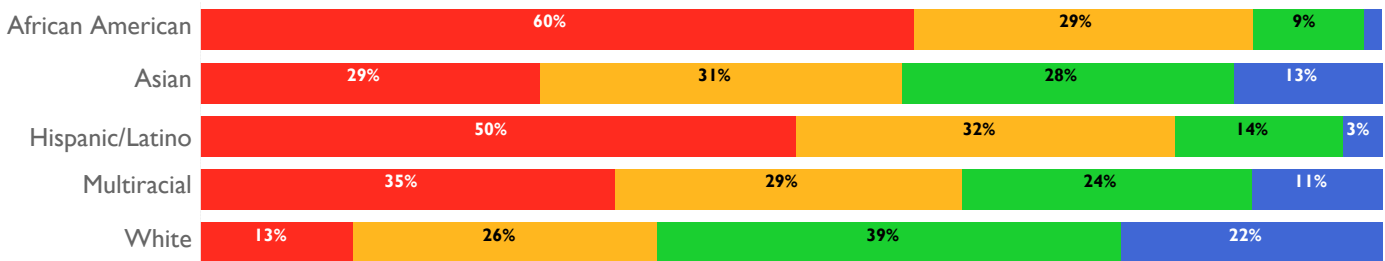
Overall MAP Reading Results



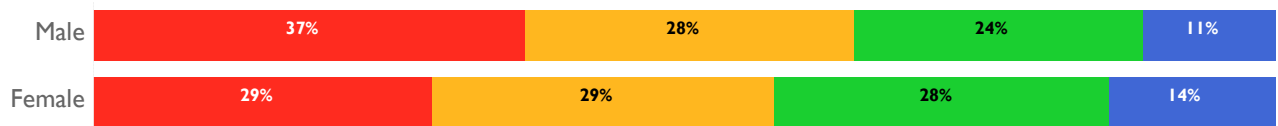
Grade Level



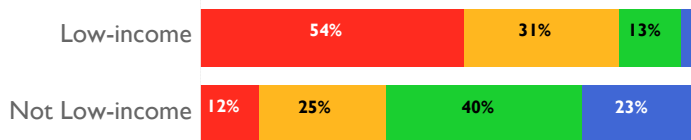
Race/Ethnicity



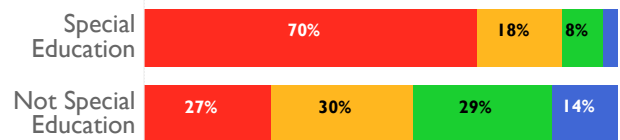
Gender



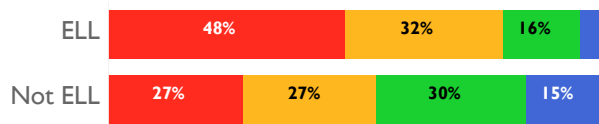
Low-income Status



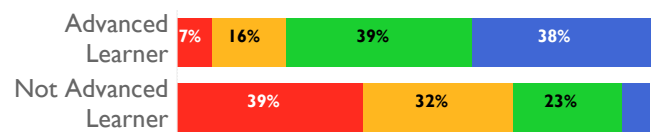
Special Education Status



English Language Learner



Advanced Learner



Minimal Basic Proficient Advanced



Interactive visualization of MAP Score Distributions

The inclusion of an interactive visualization responds to a request from the Board of Education to investigate MAP score distributions across student groups. The visualization is available at the Research & Program Evaluation Office's Visual Analytics page found at mmsd.org/research. [The graphs on this link are histograms that show RIT score distributions](#) across our largest student groups for the data in this report.

Reading Histograms

A histogram is a useful graph that illustrates the relative frequency of values, which, for this report, are MAP RIT scores. Higher bars within a histogram mean the score represented is relatively more common, while lower bars mean the score represented is relatively less common. Graphs are organized by grade, with the number running down the left hand column indicating the grade. The numbers on the vertical axis next to each graph show how many students received each score. Scores are color coded based on corresponding result levels. **Red bars indicate minimal scores**, **gold bars indicate basic scores**, **green bars indicate proficient scores**, and **blue bars indicate advanced scores**.

Key Findings

Histograms across both subject and student groups appear to have RIT scores that are normally distributed.

Furthermore, the distribution of scores for each group shift to the right (upward) at higher grade levels, suggesting that, on average, students continuously improve their raw RIT score as they get older. Taken together, these graphs provide no evidence of MAP having a tendency to cluster student scores at or just above proficiency cutoff points.

For student groups with smaller numbers of students, the histograms become less normally distributed and don't have as prominent of a peak as student groups with larger numbers. For instance, the distribution of scores for white students is more normally distributed than the distribution of scores for multiracial students. This is expected, as tests that are administered to several students are more likely to have a normal distribution than smaller groups of students. There are noticeable differences in minimum and maximum RIT scores for the different student groups, but scores in each groups tend to cluster around a midpoint, with higher or lower RIT scores becoming less common the further away from the group midpoint.

While student groups shared similar distributions, these histograms show the existing disparities in student performance. Histograms for certain student groups are centered around much lower midpoints (seen through graphs that have higher peaks further to the left) than other groups. Students identifying as Hispanic/Latino and African American have distributions that center around a midpoint lower than white students. These groups also have a greater distribution of students scores below proficiency. Student RIT score growth during a year rarely exceeds single digits, and student groups with lower proficiency rates tend to have midpoints that are lower on the RIT score scale than student groups with higher proficiency rates.



Appendix A: NWEA Measures of Academic Progress Information

Description

Measures of Academic Progress (MAP) is a computerized adaptive assessment designed to measure students' academic achievement in reading, mathematics, and language. The MAP dynamically adapts to student levels responses as they take the test. This means that if a student answers a question correctly, MAP presents a more challenging item; if he or she answers it incorrectly, MAP offers a simpler item. In an optimal test, a student answers approximately half the items correctly and half incorrectly. The final score is then an estimate of the student's achievement level. MAP is a product of the Northwest Evaluation Association (NWEA). NWEA aligns the MAP to state and national standards and works to ensure that MAP tests reflect current requirements.

Administration

MMSD administers reading and mathematics MAP content areas twice a year to all students in grades 3-8 (fall and spring). The district also administers a Winter MAP test in reading only, but the Winter assessment is optional for each school. The winter MAP is used primarily for progress monitoring during the year, and as such, the results are not included in yearly reporting at the district level. Typically, English Language Learners with DPI language levels 1 and 2 will not take the MAP assessment. Educational Services staff also help determine the extent to which students with disabilities can participate in the MAP, based on students' Individualized Education Program (IEP). Parents can also choose to opt their child out of MAP administration by notifying the school's principal in writing.

Uses of Results

MMSD uses MAP results for a variety of purposes:

1. To gauge student achievement and growth, both within year and year to year
2. To tailor instruction appropriately based on what students know and what they are ready to learn
3. To monitor progress for buildings and the district via the Data Dashboard
4. To evaluate district progress on student achievement milestones described in the Strategic Framework
5. To evaluate schools' progress on their individual SIP's.

Scoring

Every test item on a MAP assessment corresponds to a value on the RIT Scale. RIT assigns a value of difficulty to each item with an equal interval measurement, so differences between scores are the same regardless of whether a student is at the top or bottom of the scale. RIT measures understanding regardless of grade level, which helps to track a student's progress from year to year. MAP scores allow educators to see each student's level of understanding around specific concepts. Divided into four subject categories, RIT charts show which topics and sub-topics the student has mastered, and which targets represent opportunities for growth.

Proficiency Calculation – Alignment with WKCE

Every student is assigned a performance level on the MAP that is similar to the levels on the WKCE based on their RIT score (Minimal, Basic, Proficient, and Advanced). In fall 2012, NWEA conducted a norming study to align MAP and WKCE scores so MAP results would be predictive of a student's next WKCE results. Wisconsin transitioned from the WKCE to Smarter Balanced in 2014-15, but MAP proficiency levels are interpreted the same way.

Growth Calculation

Each student receives a fall to spring growth target based only on their fall RIT score that represents typical growth between fall and spring for students receiving the same fall RIT score. The growth target is then compared against the student's actual fall to spring growth to determine whether he or she met the expected fall to spring growth. The result is a yes/no answer, which is reported in aggregate as a percent of students meeting growth. Students with lower RIT scores are expected to grow more; for example, during the 2016-17 academic year a third grade student who scores 160 in reading in the fall is expected to grow 12 points by spring, but a third grade student who scores 219 in the fall is expected to grow only 6 points. In 2015, MAP altered its expected growth norms calculation. However, this report uses the 2011 growth norms, which range between 2 and 14 points, for consistency with earlier reports.