

Buffalo-Hanover-Montrose  
**District MAP Analysis**  
Spring 2009

This document is intended to provide a brief statistical analysis of the district's *Measures of Academic Progress* (MAP) testing that occurred during May 2009. District students were assessed in both reading and math at Grades 1-9 and math only at Grade 10. The key question, of course, is are BHM students are showing growth over time? The fourth consecutive year of MAP testing offers strong evidence that substantial progress is being made in student achievement in both reading and math.

While last year's results were positive, this year's are unequivocally the strongest we've seen in four years of testing. Four items in particular paint an especially positive picture:

1. BHM students established higher mean RIT scores at most grades in both reading and math
2. Students at most grades demonstrated more growth in both subjects during 2008-09 than in any previous year. BHM students at all grades demonstrated more growth, sometimes significantly more, than NWEA's norm group.
3. A higher percentage of students met NWEA growth targets in both reading and math than any previous year.
4. A higher percentage of BHM students are projected by NWEA to be likely to score in the proficient range on MCA-IIIs.

## READING

### Grade Level Comparisons

The mean RIT score in reading increased at all grades when compared to 2007-08 with the exception of Grade 9. BHM students established all-time records at all grades except Grade 4. In fact, mean scores at Grades 1 and 3 increased by at least 2 RIT points over 2007-08. Not only do BHM students score above NWEA norms at all grades, they've increased the differential over previous years.

#### Highlights:

- Hanover's Grade 5 students mean RIT of 223.8 is 6.5 RIT points higher than the BHM average
- Hanover's Grade 1 students mean RIT of 183.0 is 4.3 RIT points higher than the BHM average
- Parkside's Grade 4 students mean RIT of 213.2 is 2.7 RIT points higher than the BHM average

### RIT Mean Growth

The mean growth in RIT scores during 2008-09 reached all-time highs in reading at all grades except at Grade 3 (11.8 RIT points in 2008-09 compared to 12.2 in 2007-08) and Grade 9 (2.7 RIT points in 2008-09 compared to 3.4 in 2007-08). Students at all other grades demonstrated more growth than any previous year. In addition, BHM students exceeded growth shown by NWEA's norm group at every grade. In fact, BHM students achieved more than twice what is considered typical in reading at Grades 2, 5, 6, 7 and 8.

The growth in reading is particularly remarkable considering K-5 teachers are in the first year of implementing the *Literacy By Design* curriculum. Generally there's an "implementation dip" that occurs with a new curriculum. Overall, these results represent a phenomenal job by our students and teachers.

#### Highlights:

- At Grades 2 and 3, students from Tatanka demonstrated the greatest growth with a gain of more than 20 RIT points over the course of the year (typical growth is 11.7 RIT points at Grade 1 and 9.9 at Grade 2)
- At Grades 3 and 4, students from Parkside demonstrated the greatest growth
- At Grade 5, Hanover students demonstrated the greatest growth (13.2)
- Students at BCMS showed more growth in reading than any previous year

## Students Meeting NWEA Growth Targets

In addition to the increase in overall growth, the percentage of students meeting their reading growth targets established by NWEA (based on typical growth of 2008 norm group) increased significantly in 2008-09. In simple terms, BHM students are demonstrating more growth than what is typical for students at their grades and skill levels.

During 2008-09, 68.0% of BHM students met or exceeded their reading growth targets compared to 64.6% in 2007-08 and 62.1% in 2006-07. 60% of students in high performing schools generally achieve their targets. Most buildings established building goals for 2008-09 that incorporated increasing the percentage of students achieving MAP growth targets in reading.

### Highlights:

- HES students had the highest percentage of students achieving their goals at Grades 1 and 5. 92.3% of HES Grade 5 students and 82.1% of Grade 1 students met their targets
- At Grade 4, 88.2% of Parkside's students achieved their targets in reading
- The highest percentage of students achieving their targets district wide occurred at Grade 2 (76.5)
- A higher percentage of BCMS students met NWEA growth targets at all three grades than any previous year.

## Proficiency Projections

The percentage of students projected by NWEA as likely to score in the proficient range in reading on MCA-IIs has reached new highs. While we have only two years of data, higher scores relate to a greater likelihood of achieving thresholds established through a statewide analysis of MAP and MCA-II scores conducted by NWEA in 2007. NWEA is projecting that 80.4% of BHM students will be proficient in reading. In 2007-08, 64.6% were projected to be proficient in reading by NWEA with district results actually coming in higher at 71.5% on the MCA-IIs. This is remarkable improvement.

### Highlights:

- 91.3% of Discovery's Grade 3 class is projected to be proficient in reading (6.1% higher than the district average)
- 86.4% of Parkside's Grade 4 is projected to be proficient (3.8% higher than the district average)
- 95.1% of Hanover's Grade 5 class is projected to be proficient (11.1% higher than the district average)
- 82.2% of Grade 6 students at Buffalo Community Middle School are projected to be proficient (last year NWEA projected 78% to be proficient and only 67.8% actually were on the MCA-IIs)

## Strand Scores

Of the four academic stands in reading (*Word Recognition & Vocabulary, Informational Comprehension, Narrative Comprehension, and Literature*) BHM students scored highest in *Literature* at Grades 1-6 and lowest in *Word Recognition & Vocabulary* at Grades 2-5 and 7. None of these variations, however, represents an areas of concern because none are statistically significant. There is no pattern of strength or weakness in reading at middle or high school where achievement is very consistent.

## Longitudinal Growth

Comparing student cohorts uncovers a few interesting comparisons. Not surprising, all cohorts showed increased mean RIT scores when comparing spring 2008-09 to 2007-08. The more powerful question is did cohort achievement increase when compared to NWEA norms?

Six of seven grades saw their RIT scores increase in relation to national norms. Only Grade 8 students failed to show an increase when compared to NWEA norms. As eighth graders their mean is 4.2 RIT points above the norm, but as seventh graders in the spring of 2008 their cohort was 4.3 RIT points above the norm. The greatest positive change occurred with the current Grade 4 students. Their mean RIT score in the spring of 2008 was only 1.6 RIT points above NWEA norms and this increased to 6.2 RIT points in spring 2009.

## **MATH**

### **Grade Level Comparisons**

BHM students scored higher in math at every grade level when compared to 2007-08. When comparing district achievement in math to NWEA norms, BHM students score above norm group's average at all grades. In fact, BHM students scored at least 6 RIT points above NWEA norms at every grade. The highest achievement, compared to norms, occurred at Grade 5 where district students scored nearly 11 RIT points higher than the norm group. The differential between BHM and NWEA norms increases every year from Grade 1 to 5. While the differential declines slightly beginning at Grade 6, even students at that grade are 6.7 RIT points above the norm group.

#### *Highlights:*

- At Grade 2, Hanover students had a mean RIT of 202.3 (4.4 RIT points above the district average)
- At Grade 3, Northwinds students had a mean RIT of 213.1 (3.3 RIT points above the district average)
- At Grade 4, Parkside students had the highest RIT scores with a mean of 224.1 (4.2 RIT points above the district average)
- At Grade 5, Hanover students had a mean RIT of 240.5 (more than 10 points above the district average)

### **RIT Mean Growth**

Mean growth in RIT scores during 2008-09 also reached all-time highs in math at all grades. District students exceeded growth shown by NWEA's norm group at every grade in math. While we're not seeing twice the growth of NWEA's norm group like we are at some grades in reading, the results are still outstanding.

#### *Highlights:*

- Hanover Grade 5 students demonstrated the greatest growth in math (21.1)
- Parkside students demonstrated the greatest mean growth in math at Grades 1, 2 and 4
- Northwinds students demonstrated the greatest mean growth in math at Grade 3
- Students at BCMS also demonstrated more growth in math than any previous year

### **Students Meeting NWEA Growth Targets**

Like reading, the percentage of students meeting the growth targets established by NWEA also increased significantly in 2008-09. In 2008-09, 71.0% of district students met or exceeded NWEA growth targets in math compared to 64.5% in 2007-08 and 61.5% in 2006-07.

#### *Highlights:*

- HES students had the highest percentages of students achieving their goals in math at Grades 1 and 5. 98.7% of HES Grade 5 students and 84.6% of Grade 1 students met their math targets.
- Grade 4 PES students had the highest percentage of students achieve their targets in math with 89.6% successful.
- 90.6% of NES Grade 3 students achieved their targets in math.
- The highest percentage of students achieving their math targets district wide occurred at Grade 2 (81.9%)
- A higher percentage of BCMS students met NWEA growth targets in math than any previous year.

## Proficiency Projections

The percentage of students projected by NWEA as likely to score in the proficient range on their math MCA-IIs also reached new highs. NWEA is projecting that 76.1% of BHM students will be proficient in math. In 2007-08, 67.2% were projected to be proficient. This also represents a remarkable increase.

### Highlights:

- At Grade 3, 92.9% of Northwinds students are projected to be proficient in math (last year 84% of Grade 3 students were projected to be proficient and 81.1% actually were on the MCA-IIs)
- At Grade 4, 89.6% of Parkside students are projected to be proficient (last year 80.1% of Grade 4 students were projected to be proficient and 76.9% actually were)
- At Grade 5, 91.5% of Hanover students are projected to be proficient (last year 74.9% of Grade 5 students were projected to be proficient and 74.5% actually were)

## Strand Scores

Of the four academic stands in math (*Number Sense & Computation, Functions & Algebra, Statistics & Probability, and Geometry & Measurement*) district students scored highest in *Geometry and Measurement* at Grades 2-3, and *Statistics and Probability* at Grades 4-9. This is the same pattern observed in 2007-08. While *Number Sense & Computation* has long been an area of concern BHM students scored lowest in this strand only at Grades 2 and 7-9. Only at Grades 8 and 9 are the results statistically significant. At Grades 4-6 students performed lowest in the *Functions & Algebra* strand. This is disconcerting with new math standards beginning in 2010-11 with higher expectations in Algebra.

## Longitudinal Growth

Six of seven cohort grades saw RIT scores increase in math from 2006-07 to 2007-08 in relation to NWEA norms. The greatest positive change occurred with current Grade 4 students whose spring 2008 mean RIT scores were 3.9 RIT points above NWEA norms and saw this increase to 8.5 RIT points in spring 2008. The only class who lost ground compared to NWEA norms was the current Grade 6 who was 8.9 RIT points above NWEA norms as fifth graders and saw the differential decline to 6.7 this spring.

### Highlights:

- The current Grade 5 cohort showed similar increased achievement. This cohort exceeded the NWEA norm group in math by 7.0 RIT points in 2007-08 and by 10.9 RIT points in 2008-09.
- The current Grade 9 cohort exceeded the NWEA norm group in math by 3.9 RIT points in 2007-08 and by 7.3 RIT points in 2008-09.

## CONCLUSIONS AND QUESTIONS

A variety of indicators show that this was the most positive MAP administration in four years of testing. This is strong evidence that BHM teachers are teaching to standards as well as using MAP data in planning instructional strategies. While scores have steadily increased, there are several significant questions that will require study over the next year:

- 1) Since the percentage of students meeting their targets has steadily increased over four years, and because of the nature of the MAP testing experience, it may be difficult to raise these rates much higher. How much higher can the percentages of students meeting their growth targets go? Can we continue to expect more students to meet these targets?
- 2) As in the past, a higher percentage of district students met NWEA growth targets in the elementary grades. In reading, 73.5% of students in Grades 1-5 met their reading targets, compared to 61.5% at Grades 6-9. In math the differences are even more pronounced with 77.8% of K-5 students meeting their targets compared to 63.1% at Grades 6-9. Why do a higher percentage of elementary students meet their growth targets than secondary students?
- 3) How does the fact that BHM students score highest in Literature at most grades impact MCA-II scores which are weighted more heavily in the other strands?
- 4) How can we better prepare students for the new math standards with their rigorous expectations in Algebra when students at Grades 4-6 are performing lowest in the *Functions & Algebra* strand?