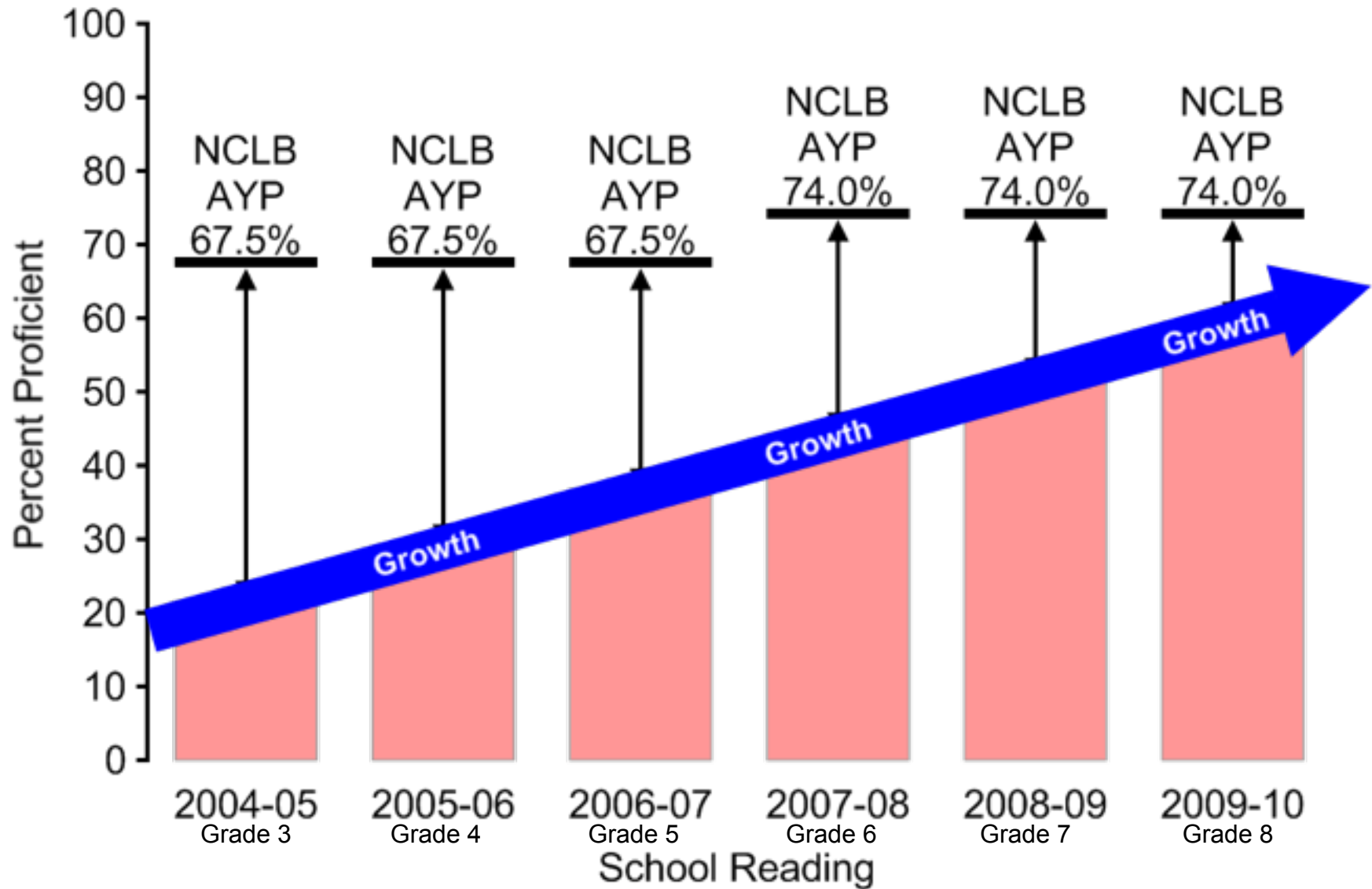


# MMSD Value-Added Results

January 3, 2011

# Attainment versus Growth



# Review of Value Added

- A kind of growth model that uses statistical techniques to separate the impact of schooling from other factors that may influence growth
- Focuses on how much students improve on the WKCE from one year to the next as measured in scale score points

# Value-Added Measures

- Extra WKCE points gained by students at a school on average relative to observably similar students across district
- Value added of +3 means students gained 3 points more than the district average
- Value added of -3 means students gained 3 points less than the district average

# Alternative understanding

- Average student gain on WKCE relative to district average, with adjustments for:
  - Shape of the test score scale
  - Gender, race, disability, low-income status, language, parents' education, FAY

# Coverage of value added

- School level
  - Covers students with two consecutive years of test scores at a school
- Grade level
  - Covers students with two consecutive years of test scores over a specific grade progression
  - Grade progressions: 3-4, 4-5, 5-6, 6-7, 7-8
  - Since testing is in November, value added is for earlier grade in the progression

# Differential value added

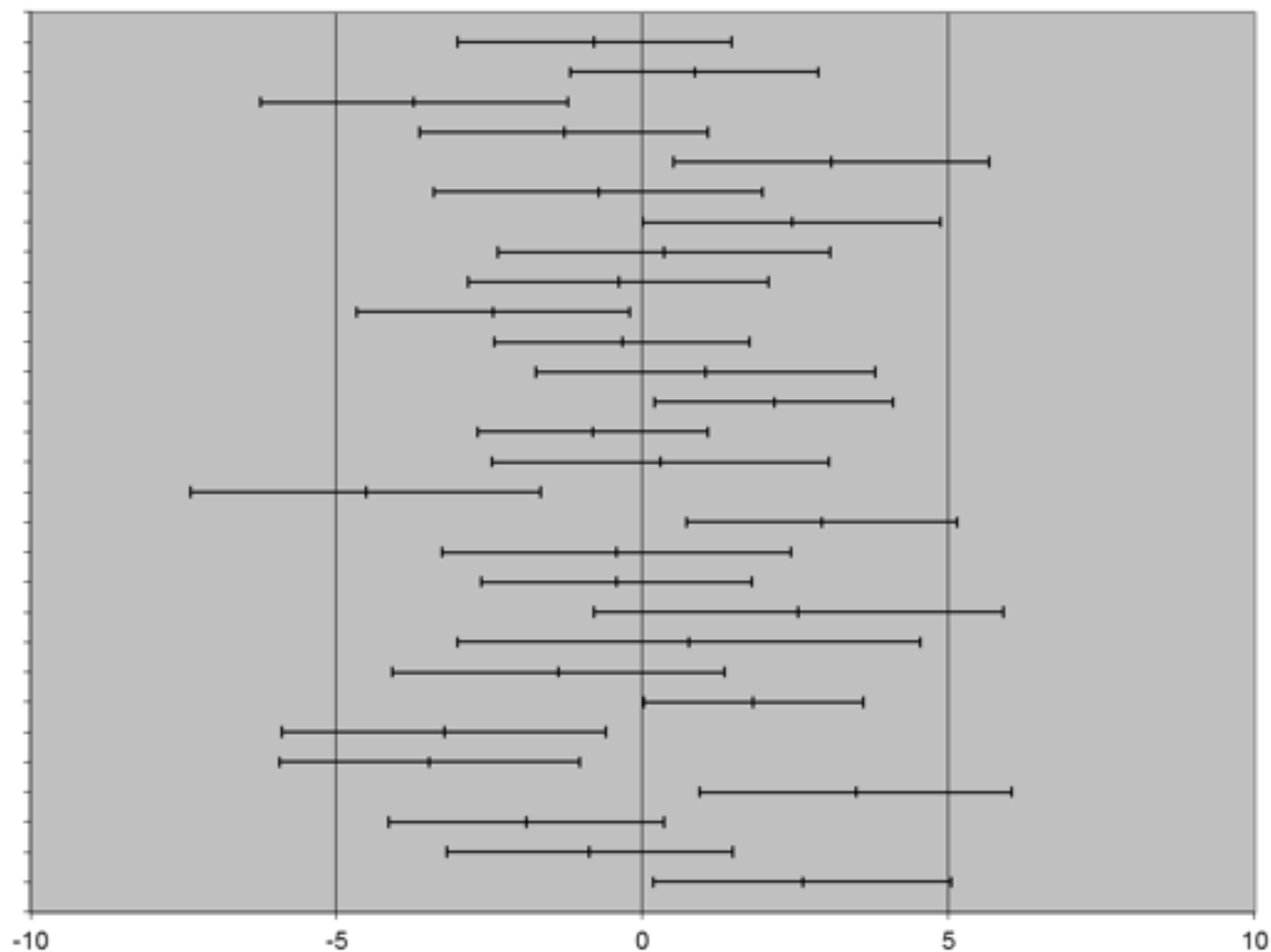
- Value added at the school and grade level for subgroups of students
  - Students with disabilities
  - English language learner
  - Black
  - Hispanic
  - Low-income
- New this year

# Some technical issues

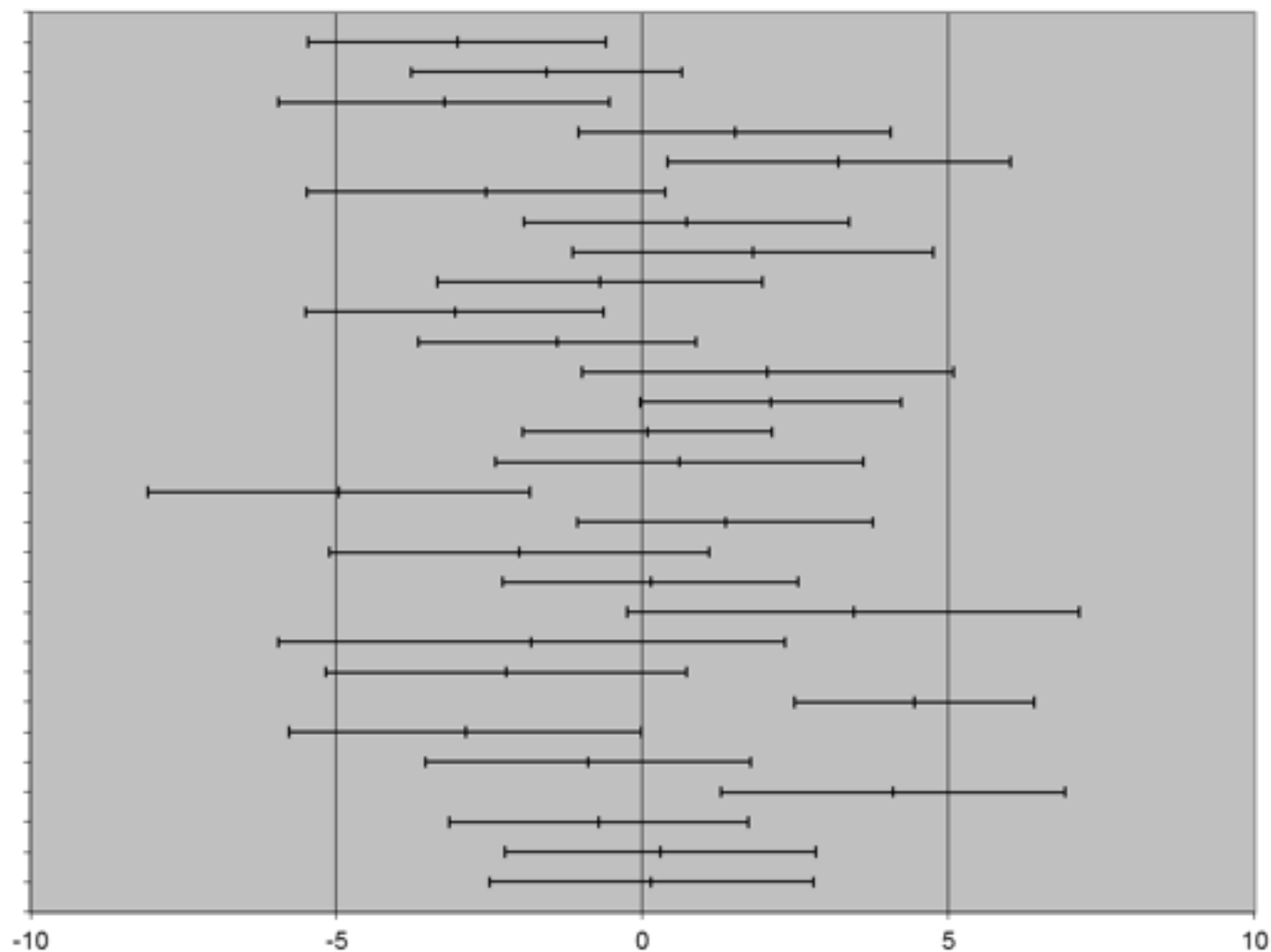
- School value added reflects student growth over two growth years
  - November 2007 to November 2009
  - Averages growth from Nov. 2007-Nov. 2008 and Nov. 2008-Nov. 2009
- Presented with 95% confidence intervals



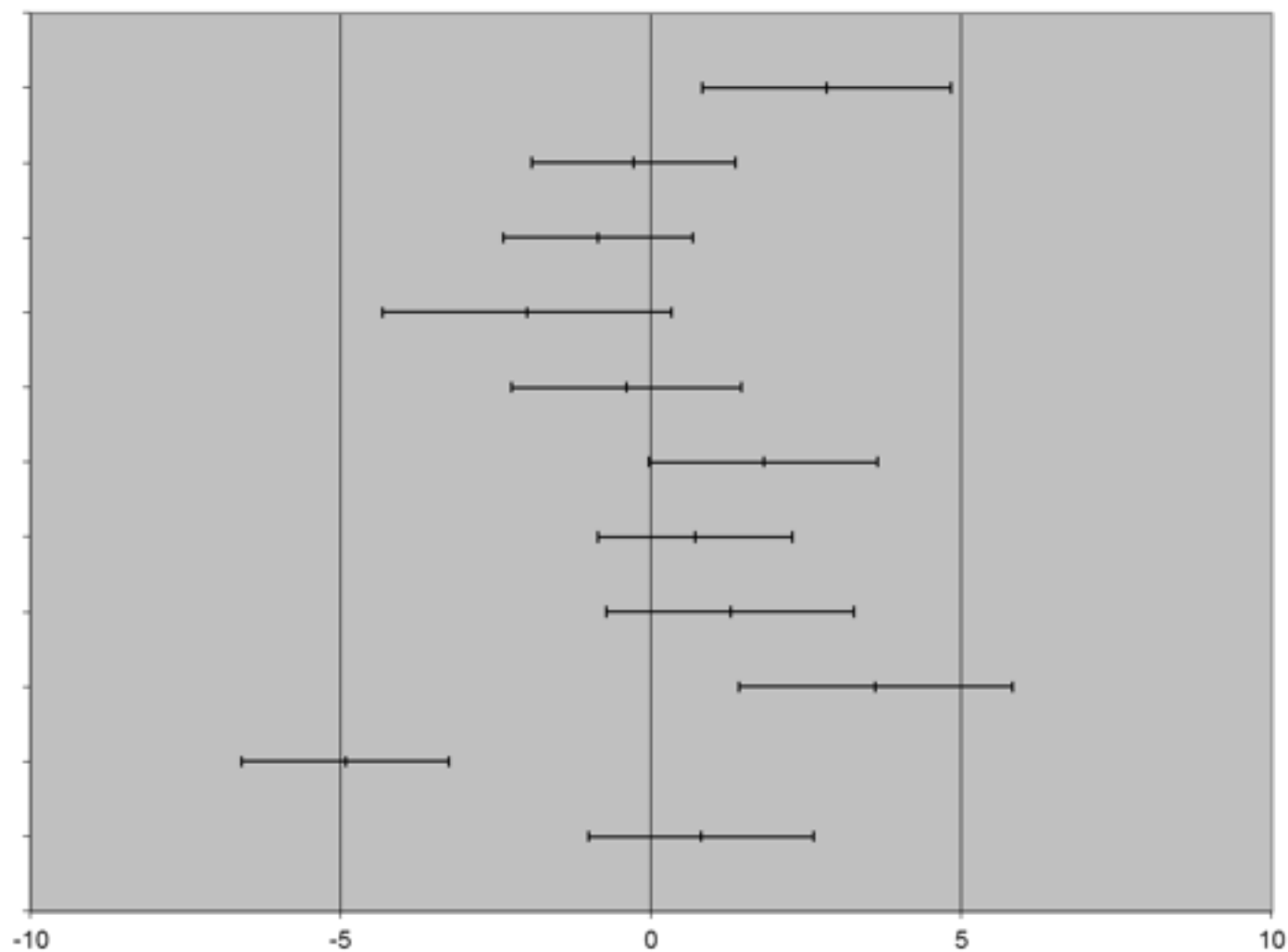
# Math Value Added, Elementary, 2007-2009



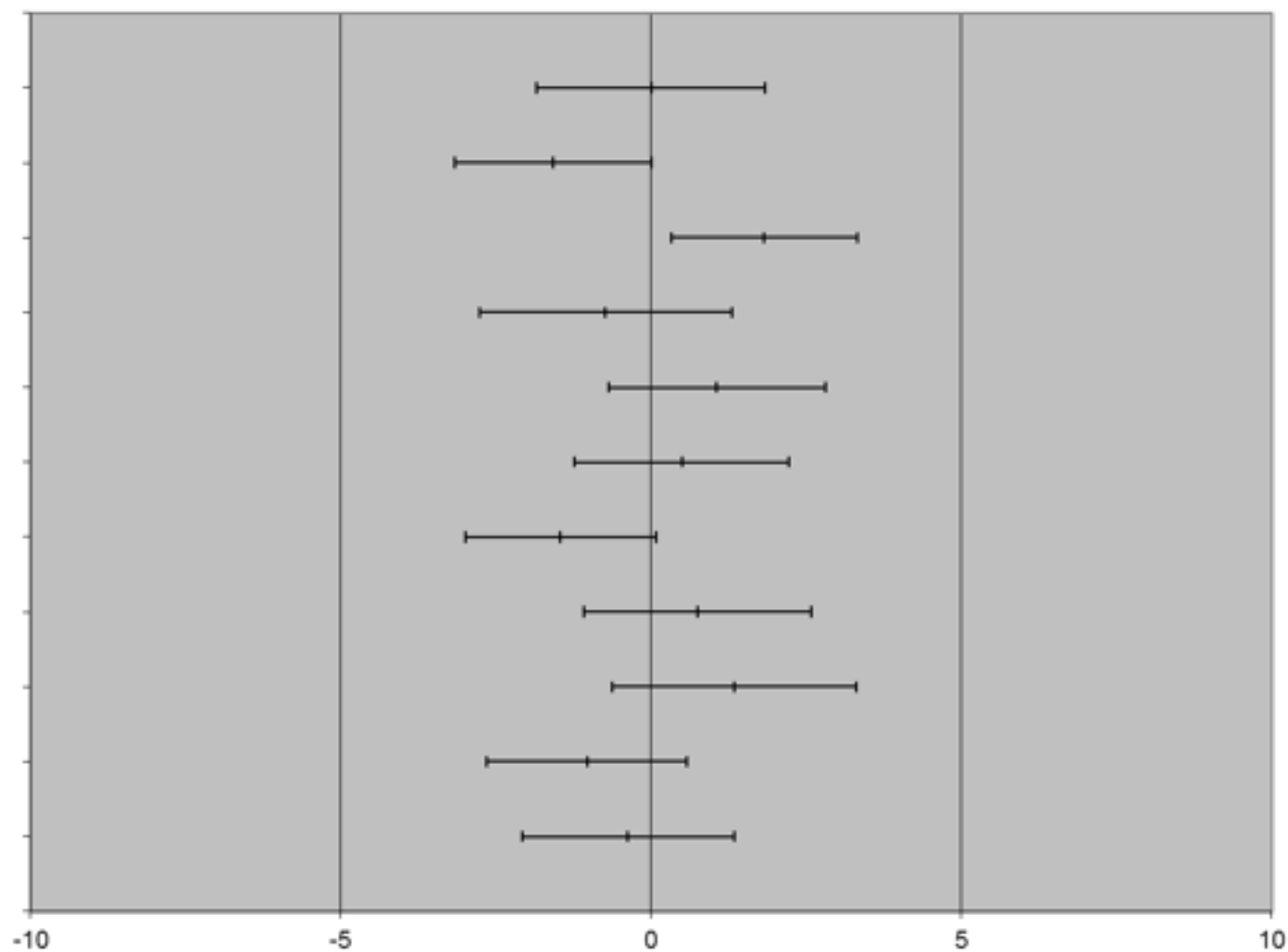
# Reading Value Added, Elementary, 2007-2009



# Math Value Added, Middle, 2007-2009



## Reading Value Added, Middle, 2007-2009



# Notes on value added charts

- Variance in elementary and middle school value added is tight in math and reading
- Don't focus too much on having a strictly positive or negative value added
  - Most schools' value added not statistically different from the district average
- Look at both school and grade level

# Value added over time

- Three overlapping 2-year periods
  - November 2005 to November 2007
  - November 2006 to November 2008
  - November 2007 to November 2009
  - VA is a “moving average”
- New Nov. 2005-2007, 2006-08 results
  - Only change in model is addition of FAY

# Control for FAY

- This year, the model controls for FAY
  - If FAY students grow more quickly than non-FAY students, that's controlled for

## FAY/non-FAY gap in value added model

	Elementary	Middle
Math	+2.0	+3.4
Reading	+2.8	+1.4

# Differential value added

- Differential value added
  - In the board report
- Measures value added for groups of students within a school
  - Do schools have different values added for different groups of students?
  - Do growth differences across groups at the district level also differ across schools?



# Differential value added

- Results for students w/disabilities
  - Students with disabilities gained 1.1 more points on the WKCE than observably similar students with disabilities across the district

<b>Subgroup VA</b>	<b>VA</b>	<b>Std. Err</b>	<b>N</b>
Disability	+1.1	(1.9)	64
ELL	+0.2	(1.7)	110
Low-income	*	*	201

# Differential value added

- Confidence interval of value added is two standard errors in either direction
  - For students with disabilities, it's +1.1 plus/minus 2 x 1.9, or -2.7 to 4.9

<b>Subgroup VA</b>	<b>VA</b>	<b>Std. Err</b>	<b>N</b>
Disability	+1.1	(1.9)	64
ELL	+0.2	(1.7)	110
Low-income	*	*	201

# Differential value added

- No result for low-income status
  - Although low-income students grew more slowly across the entire district, the difference in growth was not measurably different across schools

<b>Subgroup VA</b>	<b>VA</b>	<b>Std. Err</b>	<b>N</b>
Disability	+1.1	(1.9)	64
ELL	+0.2	(1.7)	110
Low-income	*	*	201

# Differential value added

- No result for low-income status
  - Once we controlled for the district-wide effect of low-income, there were no measurable differences across schools between VA overall and VA for low-income students

<b>Subgroup VA</b>	<b>VA</b>	<b>Std. Err</b>	<b>N</b>
Disability	+1.1	(1.9)	64
ELL	+0.2	(1.7)	110
Low-income	*	*	201

# Differential value added

- No result for low-income status
  - Since this happened, every school has an asterisk for low-income value added
  - Note: just because there were no measured differences doesn't mean there aren't any

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<b>Subgroup VA</b>	<b>VA</b>	<b>Std. Err</b>	<b>N</b>
Disability	+1.1	(1.9)	64
ELL	+0.2	(1.7)	110
Low-income	*	*	201

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# VARC Website

[varc.wceruw.org](http://varc.wceruw.org)

Ernest Morgan  
[ernestmorgan@wisc.edu](mailto:ernestmorgan@wisc.edu)

# MMSD Value Added School Report

- This report may help you answer the following questions:
  - How much does a school contribute to student growth?
  - How does this impact differ across grade levels?



**Value-Added School Report**  
 School Name, 2006-2008

This report presents value-added results of the school and grade level. The values added presented are for the period between the November 2006 and November 2008 administrations of the WKCE, and reflect two years of growth.

Value added is measured in reading and math. Value added is a nationally recognized way of measuring growth that is used in districts nationwide. At the Madison Metropolitan School District, value-added measures have been developed in collaboration with academic experts from the University of Wisconsin - Madison.

Value-added measures are a more informative, accurate and equitable way to measure how your students progress from one year to the next. It is more informative because it measures the actual amount of growth, in WKCE scale score points, more accurate because it reflects growth at all levels of student achievement, and more equitable because it accounts for differences in student populations.

Student progress varies by grade, prior performance and demographics. Value-added measures account for these factors, comparing students along the following dimensions:

Value-added measures provide data to help you answer questions such as, How much does a school contribute to student growth? How does this impact differ across grade levels? Value-added estimates should be considered an additional piece of information available to help you make informed decisions.

**School Level Value-Added** is reported as the number of extra points students at a school scored on the 2006, 2007, and 2008 WKCE relative to observationally similar students across the district. A school with a zero value added is an average school in terms of value-added. Students at a school with a value added of 3 scored 3 points higher on the WKCE on average than observationally similar students at other schools.

**Grade Level Value-Added** measures a school's value-added specifically for those students making a specific grade progression. Under the header 3rd to 4th, value-added is presented for students who progressed from grade 3 to grade 4, either between the November 2006 and November 2007 tests or between the November 2007 and November 2008 tests. It is equal to the number of extra points students progressing from grade 3 to grade 4 at a school scored on the WKCE relative to observationally similar students making the same grade progression at other schools. Its average across schools is zero.

**Averaging Explanation** - Each value-added estimate covers two years of growth. This means that each value-added measure covers the growth of two years' worth of students, increasing sample size and improving the precision of the estimates.

Here are your results for Value-Added and Attainment (as determined by percent proficient). Percent proficient is determined by the percentage of students scoring proficient or advanced on the WKCE. This percentage is a weighted average of students' pre-test scores over the two year period.

**School-Level Example:** on average, the year-to-year gain between 2006 and 2008 for your students in reading was 3.4 scale score points higher than similar students district-wide.

**Grade-Level Example:** on average, the year-to-year gain between 2006 and 2008 for your students from 3rd to 4th grade math was 10.8 scale score points higher than similar 3rd to 4th grade students district-wide.

SCHOOL-LEVEL VALUE-ADDED, 2006-2008			GRADE-LEVEL VALUE-ADDED, 2006-2008				
	Value-Added Score	Percent Proficient	Reading		Math		
			Value-Added Score	Percent Proficient	Value-Added Score	Percent Proficient	
Reading	3.4	70	3rd to 4th	6.5	70	10.8	43
			4th to 5th	-2.4	81	2.5	88
			5th to 6th	3.8	82	-0.5	46
Math	3.9	42					

# Value Added Description and Scores

## Page 1

Here are your results for Value-Added and Attainment (as determined by percent proficient). Percent proficient is determined by the percentage of students scoring proficient or advanced on the WKCE. This percentage is a weighted average of students' pre-test scores over the two year period.

School-Level Example: on average, the year-to-year gain between 2006 and 2008 for your students in reading was 3.4 scale score points higher than similar students district-wide.

Grade-Level Example: on average, the year-to-year gain between 2006 and 2008 for your students from 3rd to 4th grade math was 10.8 scale score points higher than similar 3rd to 4th grade students district-wide.

SCHOOL-LEVEL VALUE-ADDED, 2006-2008		
	Value-Added Score	Percent Proficient
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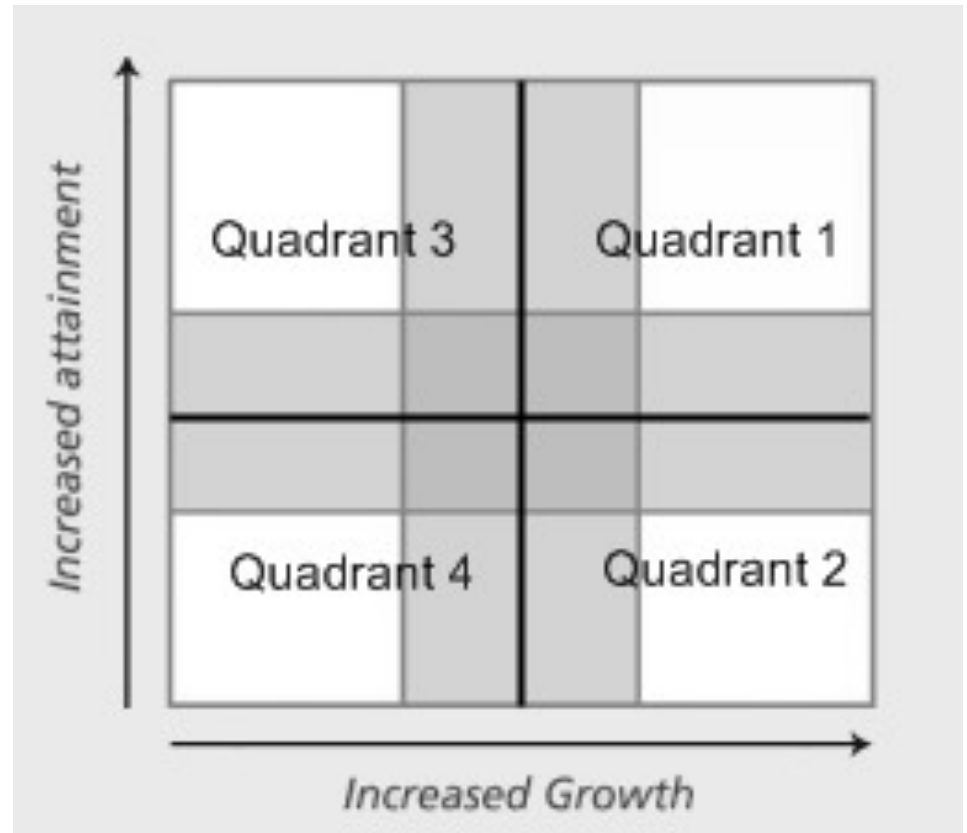
GRADE-LEVEL VALUE-ADDED, 2006-2008				
	Reading		Math	
	Value-Added Score	Percent Proficient	Value-Added Score	Percent Proficient
3rd to 4th	6.5	70	10.8	43
4th to 5th	-2.4	81	2.3	55
5th to 6th	3.8	62	-0.5	46



# Analysis of Growth and Attainment

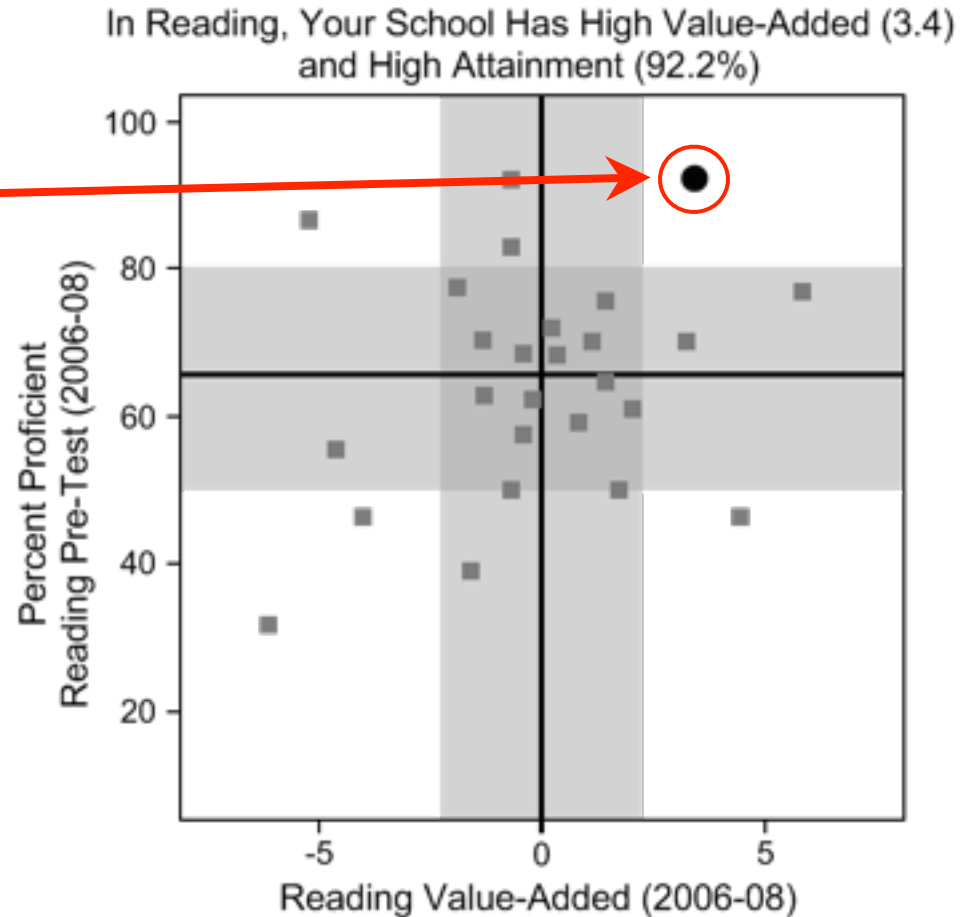
## Page 2

- A school's value added score can be compared to its percent proficient. This type of comparison will result in a school falling into 1 of 4 different quadrants.



# Analysis of Growth and Attainment

- Quadrants
  - Reading
  - Math



# Quadrant Analysis

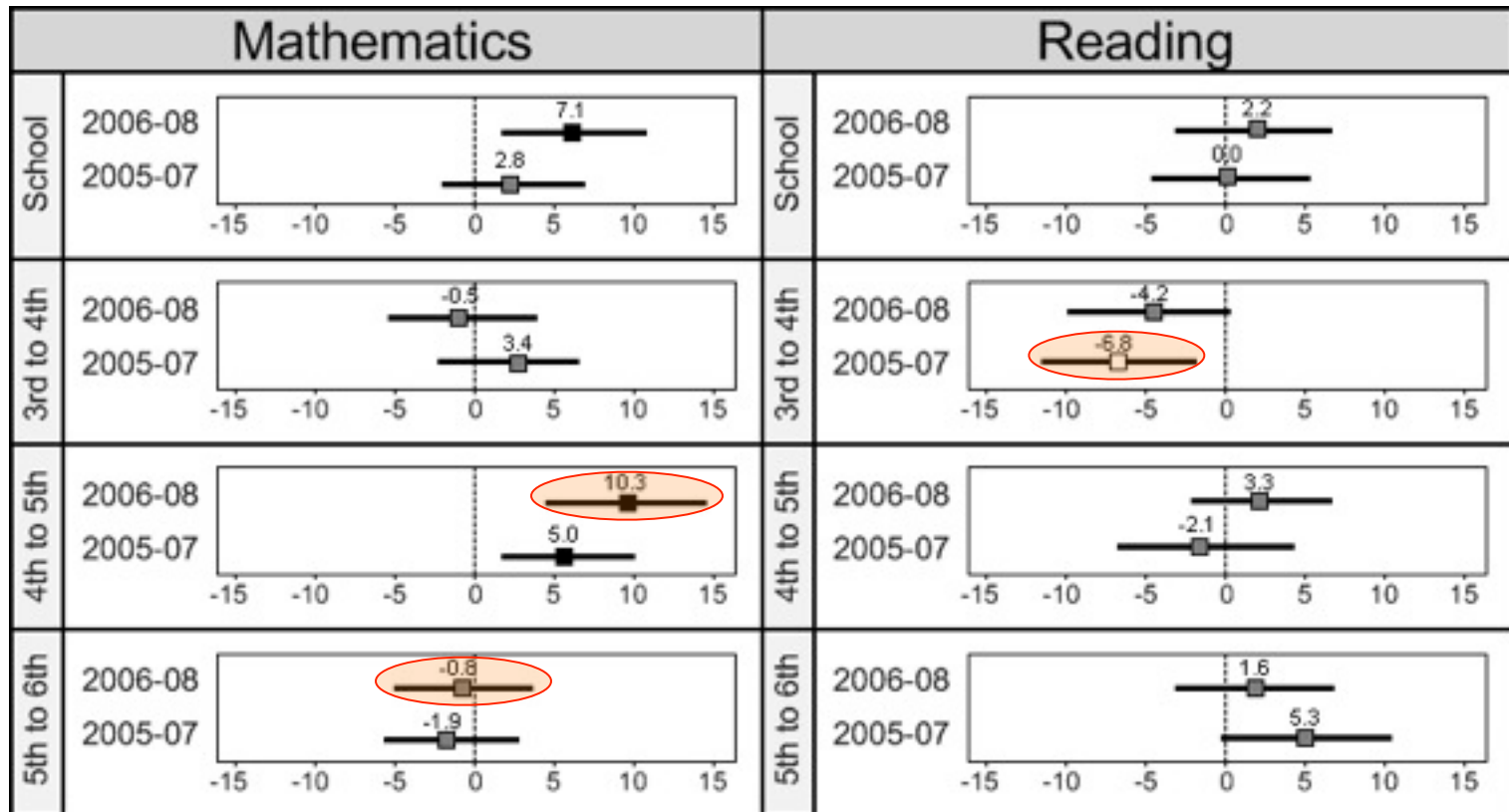
- Perspectives
  - Superintendent analyzing schools
  - Principal assessing school and analyzing grade-level performance
- Cautions:
  - It is critical to understand the dangers of over-interpreting the data.

# Value Added as a Diagnostic Tool

- This page may help you answer the following questions:
  - How certain should I be that my students are performing at a certain level?

# Value Added as a Diagnostic Tool

- Confidence Interval Example



# Value Added as a Diagnostic Tool

Information to  
interpret confidence  
intervals

To help understand the confidence intervals, we have coded them into three categories:

■ (black) = The entire interval is above zero. This means you can be sure that your school's impact on student growth is above-average.

■ (gray) = The interval crosses zero. This means that your school's impact may range from above-average to below-average. A positive value-added score means a higher chance of above-average impact; a negative value-added score means a higher chance of below-average impact.

□ (white) = The entire interval is below zero. This means you can be sure that your school's impact on student growth is below-average.

If you have any questions about interpreting this report, please contact John Doe at [JohnDoe@email.com](mailto:JohnDoe@email.com)