Boston Plan for
EXCELLENCE
IN THE PUBLIC SCHOOLS

Making the Most of MCAS

A three-stage process for analyzing 2010 item-level ELA MCAS data in an inquiry cycle

September 2010

Analyze ⇨ **Plan** ⇨ **Implement** ⇨ **Assess/Reflect**

How does MCAS data fit into the inquiry cycle?

Analyze *the MCAS data sheet to:*

- Select a broad problem area within ELA that poses difficulties for many students.
- Hypothesize about missing underlying skills and sub-areas of difficulty within the problem area.
- Select target students who struggle with the subject overall and consider what additional underlying skills they may need to improve on sub-areas and the broader problem area.

Analyze ⇨ **Plan** ⇨ **Implement** ⇨ **Assess/Reflect**

How does MCAS data fit into the inquiry cycle?

Then plan to:

- Confirm or alter your hypotheses based on other sources of information – student work samples, interviews, etc.
- Determine instructional steps to address skill gaps and track your students' progress!

Stage I: Take the Test

Time: **At most** 40 minutes. (Only half of the test is released). You can do this individually before gathering to look at data in teams.

Activity/Rationale: It is *critical* that you are familiar with every (available) passage and every question on the test. It will show you what is really being asked of your students. If you rely purely on numbers and question categories in the data, you will miss underlying patterns or misinterpret the apparent needs of your students.

Stage II: Initial Exploration

Time: No more than **30 minutes** if you have looked through the test and the data guide

Activity: Take **a broad-brush look at *all* the data** to narrow down to the most instructionally relevant patterns. Remember to record observations, and keep it low inference.*

1)What's the first thing you notice? Get a brief impression from each person.

2)What are the highest-scoring standards? The lowest?

3)What are the ten lowest multiple choice questions?

4)What are the ten highest? Who missed several of the highest questions? How many in the lowest quartile did so?

5)Are the lowest or highest items clustered in certain standards or spread out? Could they be in the same passages? For unreleased items, look for consecutive item numbers.

6)Are the averages similar across Open Response items, or do some items stand out as high or low?

If you do nothing else…

…look at the numbers beyond obvious categories (standards, strands) in multiple ways

… avoid conclusions based on one or two items before exploring the whole test

** Low-inference observations are fully justified by the data. Minimal inferences are made. Low-inference: Our lowest-scoring standard last year was Standard 12 -Fiction. High-inference: They must have hated the novels we chose for them; it shows in the results.*

Stage III: Item and Error Analysis

Time: At least **30 minutes.**

Activity: Identify more precise sub-areas of concern based on your initial exploration.

1. Read the ten lowest items and open response questions and review the passages. Are there similarities in skills required, passage content, etc. amongst any of the ten items? Remember to be low-inference.*
2. Choose a sub-group of questions for which the team noticed the most similarities.
   - Were there dominant wrong answer choices?
   - What could have led students to choose them? This is not entirely low-inference, so it's not the final word!
   - Did students in the bottom quartile make the same errors? If not, what might be different about their selection process?
   - What skills and knowledge do students need to learn next to read these texts and answer these items? Do students in the bottom quartile need other skills as well?
   - What pieces of evidence can you gather to confirm the hypothesis about their learning needs?
3. Repeat #2 with other items if time permits. You now have some sub-areas of learning needs tentatively identified and can examine student work to choose precise learning targets to be addressed in lesson plans, tutoring, and other actions you take.

**Low-inference: Three of the ten lowest items are for a 19th-century speech. Four items ask to define a word in context. High-inference: They've never read a 19th-century speech. It must be the wording of these items.*

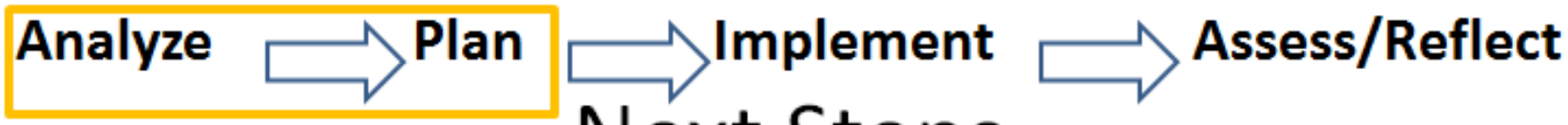
Next Steps

Strategically analyzed MCAS data is a great start, but it usually can't confirm your students' thinking.

❑ Gather evidence to confirm or disconfirm your hypothesis about your students' learning needs.

– Recent tests and quizzes, writing samples, writing prompt from MCAS when available.

❑ When looking through this of evidence, you may want to focus on a select group of students who have relatively good attendance but poor course/MCAS performance. You can then target these students for additional instructional support.



Next Steps

- If the evidence isn't readily available, use one or two similar questions from the MCAS, BPS formative assessment, or Achievement Network item banks and ask students to show the thinking behind their choices. Mini-assessments of your own creation and short interviews can be used as well.

- After you've analyzed this evidence, you'll be ready to choose and try out instructional steps to get your students to reach goals that you set for them.

Appendix

I. Guide to the ELA MCAS 2010 Data Sheet

Guide to MCAS Data – Student Information

The data sheet includes demographic and MCAS performance information for each student.

Demographic Information									MCAS Information						
Student ID	Student Name	HR	Team	Sex	Race	SN	Bil	ELD Lev	Perf Lv	Raw Scor	Scaled Scor	WP C	WP C	SGP	CPI
#####	Sample, Student	111	Grade 15	M	Black				P	62	258	8	8	77	100
#####	Sample, Student	112	Grade 16	M	Black				P	62	258	8	8	77	100
#####	Sample, Student	113	Grade 17	M	Black				P	62	258	8	8	77	100
#####	Sample, Student	114	Grade 18	M	Black				P	62	258	8	8	77	100
#####	Sample, Student	115	Grade 19	M	Black				P	62	258	8	8	77	100
#####	Sample, Student	116	Grade 20	M	Black				P	62	258	8	8	77	100
#####	Sample, Student	117	Grade 21	M	Black				P	62	258	8	8	77	100

Students are listed in order of raw score, followed by performance level, then alphabetically by last name.

Color codes identify performance levels – green for A and P, yellow for high NI, orange for low NI, red for W.

SGP stands for "Student Growth Percentile," the state's new MCAS growth score.

Guide to MCAS Data – Analytic Headers

Items are arranged in numerical order *of each standard*, then by item number. Abbreviated standard names are provided.

This is the percentage of correct answers out of all answers provided for all questions for one standard. You can think of it as percent correct on each standard, but it is **not** a simple average of % correct by item.

Item #			17	22	23	33	41	9	10	34	35
Standard			4 - Vocabulary and Concept Development					5 - Structure and Origins of Modern English			
%Correct by Standard			57%					46%			
Correct Answer			B	N/A	N/A	N/A	N/A	C	C	N/A	15%
Error Analysis		% A	15%					19%	11%		51%
		%B	✓					16%	19%		34%
		%C	9%					✓	✓		0%
		%D	11%					28%	18%		0%
%Correct by Item			65%	50%	38%	64%	72%	36%	53%	49%	1.19
MCAS Data			#17	#22	#23	#33	#41	#9	#10	#34	#35

Percent of correct answers for each item is provided and highlighted.

Item numbers are in two locations for easy reference.

Each distractor, A-D, is color-coded for easy identification in the data sheet. You can see the percent distribution of answer choices for each item. Items without this information were not released. You can see how many students answered correctly and incorrectly, but not which answers they chose.

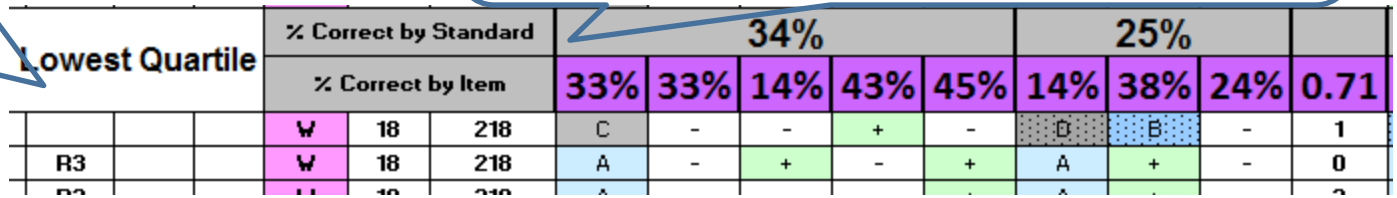
For Open Response items, percents of students attaining each rubric score 0-4 are provided. Note that students with without scores aren't included but should be considered.

Guide to MCAS Data– Lowest Quartile and General Item Data

Some of the analysis in the header is provided separately for the bottom quartile, which is calculated by quartering only the number of students who received a performance level of W to A, and selecting students in the bottom fourth. This excludes *most* students with ABS, PRG, LEP, unless they received raw scores.

You can find this information about three-fourths of the way into the data. The sub-header shows where the bottom quartile starts.

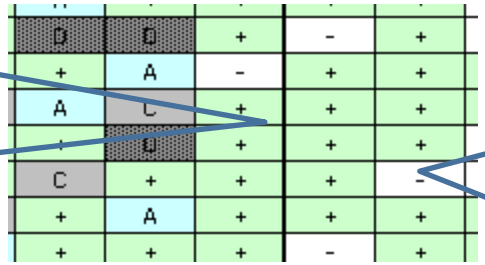
These calculations are for the bottom quartile *only*. Use this information to target support for students who may be farthest behind. Differences in distractor patterns are easy to eye-ball for a smaller number of students.



Lowest Quartile	% Correct by Standard			34%					25%			
	% Correct by Item			33%	33%	14%	43%	45%	14%	38%	24%	0.71
	W	18	218	C	-	-	+	-	D	B	-	1
R3	W	18	218	A	-	+	-	+	A	+	-	0

Here is view of item data for all students:

Dark lines separate groups of items in the same standard. Color coding of answer choices provides easy estimation.



D	D	+	-	+
+	A	-	+	+
A	C	+	+	+
+	D	+	+	+
C	+	+	+	-
+	A	+	+	+
+	+	+	-	+

White cells with a "-" appear for unreleased items. They signal incorrect answers, but actual answer choice data is unavailable. Green cells with a "+" always mean correct answers, both for released and unreleased items.