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Final Update for 2023 New York State Assessments

Checking that Teaching and Learning Strategies Have Been Implemented

by Fred Cohen

When assessment results are first published in the fall, most districts and many teachers review their Gap Reports and Wrong Answer Summary Analyses to see areas of strength and areas where improvement is needed. The key data point reviewed, of course, is a comparison to the Nassau County **benchmark** which advises districts of **question difficulty**. Sometimes, earning 80% correct on a question is a sign of learning deficiency while 70% correct is a sign of academic strength. How could that be?

That is because State assessments are designed to include questions of varying difficulty. The Nassau County benchmark, representing over 10,000 students, reveals question difficulty. So if Nassau County scored 92% on Question A, and your district scored only 80%, that likely shows a learning deficiency compared to the County. Similarly, on Question B, if the County Benchmark were only 58% when your district scored 70% correct, that likely represents a learning strength. The key is to review the Gap Report, like the one below, to analyze district and teacher results.

In many cases, an initial analysis was done when the Gap Reports became available in the Fall. But a final check this week might reveal whether those deficiencies have been addressed. Let's review this segment from the Gap Report for the 2022 Math 6 Assessment. This teacher's data set includes about 50 of the district's 150 tested students in Grade 6 Math. Overall, this **teacher's students** averaged 6% above the County benchmark and the **district's students** averaged 2.3% above the County benchmark (data not shown here). The snippet of the Gap Report shown below is illustrative of a key insight learned from past experience. Note carefully that these two questions are **representative of the same State standard.** Viewing the standard is always a necessary but rarely a sufficient endeavor when analyzing test results.

Standard/Key Idea	Subskill/Performance Indicator	Question #	MC/CR	Teacher%	School%	Region%	Teacher Gap	School Gap
CCSS.Math.Content.6.EE.B.5	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation o	01-MC	MC	74.5%	71.0%	78.1%	-3.6%	-7.1%
CCSS.Math.Content.6.EE.B.5	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation o	16-MC	MC	85.1%	79.8%	73.6%	11.5%	6.2%

Easier question

More difficult question

Upcoming IDW Events

IDW Trainings:

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More important is **analyzing the questions themselves** to understand student success and/or student confusion. Fortunately, most multiple choice questions and all constructed response questions are available for analysis. Let's view the two questions to see why the district's and teacher's students outperformed the County (Nassau County Region) on the more difficult question yet underperformed the County on the question that was easier for most students in Nassau County. Of course, **the key is to ensure that this year's students learn the key concept** that was not learned last year. The goal is not to teach to the question but to discover what foundational concept was not learned as effectively as it might have been. Let's view the two questions below knowing that they represent the exact same standard as identified on the previous page.

1 Which value of m makes the inequality true?

$$3m - 4 < 11$$

A 4

B 5

C 6

D 7

16 Which value of x makes the equation true?

$$4x - 8 = 4$$

A 1

B 3

C 4

D 9

Notice that the standard cited (Math 6.EE.B.5) makes reference to "solving an equation or inequality…." The two questions are almost identical in format, yet the relative performance on these questions is quite different. This teacher's students underperformed the County (Region) on the easier question (Question 1) by 3.6%, yet they outperformed Region on the more difficult question (Question 16) by 11.5%. Why? Before reaching even a tentative conclusion, the Wrong Answer Summary Analysis (WASA Report) should be viewed. Remember there are two WASA Reports to check. First, let's look at the standard "Table" version of the report below. The clear distractor here for Question 1 is the second response or "Answer B, "5." But the few wrong answers for Question 16 are almost equally divided among the three circled wrong choices. Why?

Sort Report By:	Question Number (Q#)			Blank		Resp 1		Resp 2		Resp 3		Resp 4	
Q#	Skill Tested	Region %	Correct Resp	#	%	#	%	#	%	#	%	#	%
01-MC	CCSS.Math.Content.6.EE.B.5: Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a speci	78.1%	1			35	74%	10	21%			2	4%
16-MC	CCSS.Math.Content.6.EE.B.5: Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a speci	73.6%	2			3	6%	40	85%	3	6%	1	2%

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One might first notice that Question 1 is about **solving an inequality** while Question 16 is about a **solving an equation.** The standard itself cites both terms in its description. That is why it is never sufficient to look only at the standard but to view the question when it is released by SED. One might wonder if students erred on Question 1 because they learned to solve simple equations of this type well but did not learn how to apply the "less than" sign in Question 1.

1 Which value of m makes the inequality true?

$$3m - 4 \boxed{<} 11$$

A 4 Correct answer

B 5 Distractor

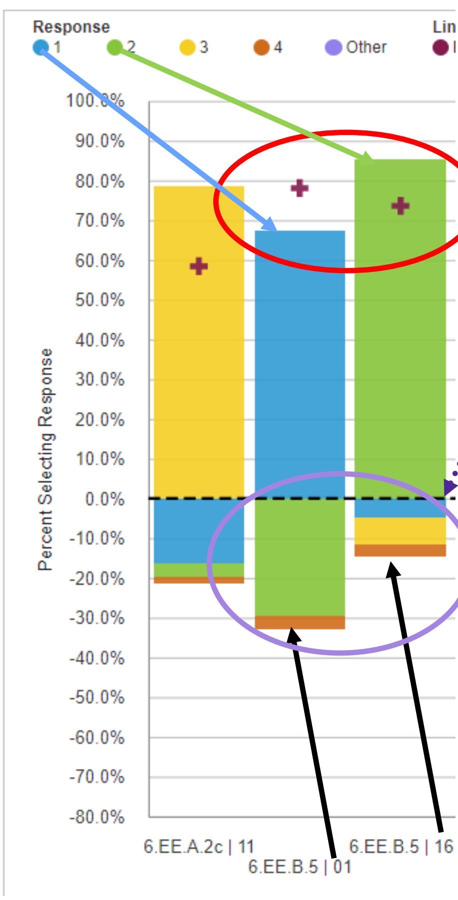
C 6

D 7

The student who chose Answer B correctly solved for *m*, but they did not know how, or they forgot the full meaning of, what an inequality represents. Most important when reviewing the WASA is to also evaluate whether the lack of understanding represents a key concept for Grade 6 mathematics or is just incidental learning tangential to the curriculum.

Sometimes the misunderstanding is minute and may not be worth addressing. But inequalities are a key mathematics concept. It is also important to remember that these students tended to outperform the Region overall, but they lagged behind on this key concept.

It's also important to view the **Visual WASA** which presents a graphic view of the entire assessment.



The two black arrows below point to Questions 1 and 16. Both questions are identified as referencing Standard 6.EE.B.5. The red oval outlines the Nassau County Region ("+" signs, in brown). The colored vertical bars above the dotted line show students' correct answers. One can quickly see that the region performed above these students in Question 1 (in blue), but these same students outperformed the region on question 16 (in green). Note as well that the brown "+" sign for Question 1 is slightly above the "+" sign for Question 16 (78.1% compared to 73.6%) because the Region found Question 1 somewhat easier.

But the beauty of the Visual WASA can be seen in the area below the dotted line. The color code for each response below the bottom line is the same as above the line, but the colors below the line indicate **incorrect responses**. Look at the size of the sectors in the purple oval. On Question 1, the large green area dramatizes the key concept missed by these students. They read Question 1 as a simple equation and chose Answer B or "5" rather than Answer A, a value "less than 5."

But on question 16, there are very few incorrect responses and they are equally divided among the incorrect responses indicated that there was no pattern to their mistakes. Perhaps they simply divide incorrectly or did not know how to proceed.

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But the key takeaway is that there is **still time to review areas where student learning was suspect** last year. Why not review these areas now with teachers and make certain that such key concepts are cemented for this year's assessments. We know that this particular inequality question will not be repeated, but we also know that a full understanding of how **inequalities and equations are different** is essential for future study.

The same, of course, is true for the ELA exams. The teaching/learning issues are different but there are essential developmental skills that missed in one grade affect ongoing learning if not addressed. Why not address those skill prior to the test cycle or even after the ELA assessments are given this April. It may be too late to affect test scores, but ensuring that foundational skills are learned is imperative, especially if those skills were identified at the beginning of the year based on the 2022 assessments.

One example I have noted in a few districts is the apparent overlooking of the writing skills identified by the constructed response (CR) questions. If you notice that your district's success on the CR questions falls significantly below your success on the multiple choice questions, it may be because students lack the essential skill of writing to a prompt. Most consider this an essential skill, but I have observed some grades, in some districts, that seem to have given minimal instruction in this area. Running a Gap Report first for MC questions and separately for CR questions may be enlightening. If the gaps between CR and MC success are significant, the likely cause is instructional and should be addressed.

As always, IDW personnel are available to provide telephone assistance as well as virtual and in-district training for any district seeking to learn more about this newsletter, or about other best data practices. To schedule a training session or ask any IDW-related questions, please call Stephanie Witt at (516) 608-6623, Tammy Mazza at (516) 608-6633, Fred Cohen at (516) 608-6640 or Dr. Wanda Toledo at (516) 608-6648.

What's New in the IDW?

- **The Third Party NYS Projection Dashboards were published. There are two dashboards for each third party diagnostic; one overall proficiency summary, and one individual level summary.**

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