Analyzing Rigor of Teacher Made Assessments

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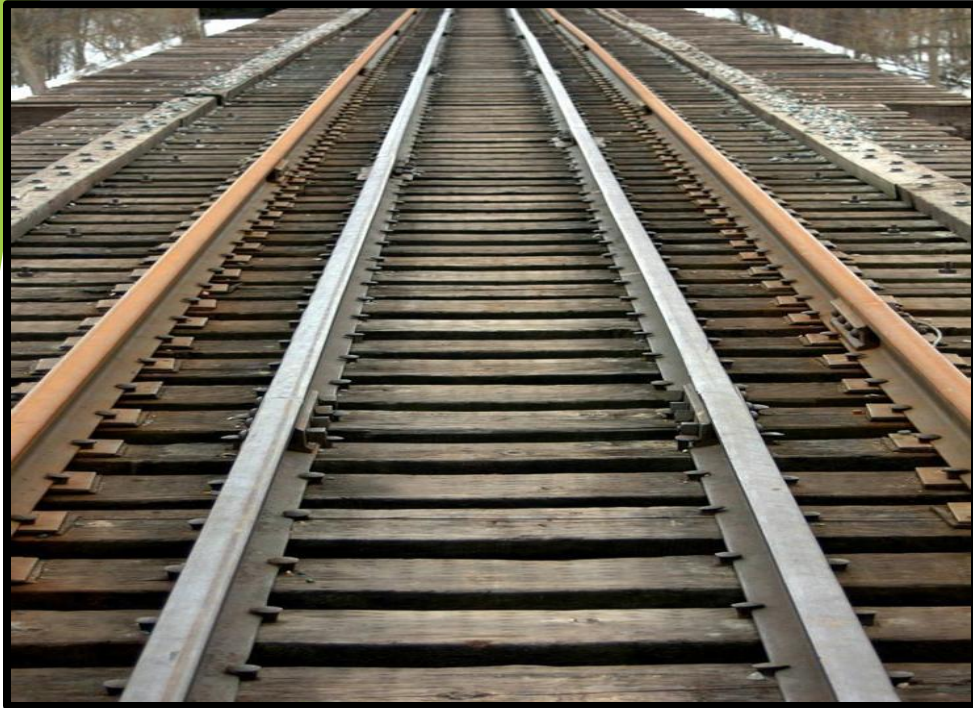
Working Agreement

❑ **Presume positive intentions**

❑ **Honor all voices; respect what others are saying**

❑ **Be fully present**

❑ **Be mindful of airtime**

❑ **Keep the focus on the students**

We innovate and transform learning to inspire excellence.

Triple Track Agenda

While engaging in today's PD,
please keep in mind how these activities may apply to the following areas:

- ❑ **Content** – How might the strategies and information learned today support my personal growth?

- ❑ **Classroom** – How might the strategies I engaged in today apply to my students' growth?

- ❑ **Facilitation** – How might the strategies I engaged in today apply when collaborating or facilitating meetings with my colleagues?

Objectives

1. Participants will increase their capacity to formulate questions that challenge students and elicit high-level mathematical thinking and reasoning as it pertains to SBAC assessment questions.
2. Participants will analyze and revise teacher generated SBAC assessment questions to increase rigor using DOK's and Hess's Cognitive Matrix.

Objective 1

▶ Participants will increase their capacity to formulate questions that challenge students and elicit high-level mathematical thinking and reasoning as it pertains to SBAC assessment questions.

Two Different Cognitive Rigor Models

Different states/schools/teachers use different models to describe cognitive rigor. Each addresses something different.

- Bloom's – What <u>type of thinking</u> (verbs) is needed to answer questions in order to complete a task?

- Webb's DOK – <u>How deeply</u> do you have to understand the content to successfully interact with it? How complex is the content and/or task?

Some general rules of thumb…

- **If there is only one correct answer, it is probably level DOK 1 or DOK 2**

- DOK 1: you either know it (can recall it, locate it, do it) or you don't

- DOK 2 (conceptual): apply one concept, then make a decision before going on *applying a second concept*

- **If more than one solution/approach, requiring evidence, it is DOK 3 or 4**

- DOK 3: Must provide supporting evidence and reasoning (not just HOW solved, but WHY – explain reasoning)

- DOK 4: all of "3" + use of multiple sources or texts

Cognitive Rigor & Some Implications
for Assessment and Instructional Design

- Assessing only at the highest DOK level will <u>miss opportunities</u> to know what students do & don't know.

- Performance assessments can offer varying levels of DOK embedded in a larger, more complex task.

- Planned formative assessment strategies and tools can focus on differing DOK levels.

Match Claim and SMP

Step 1
- Using the problems provided, discuss as a school team and match them to the correct SBAC Claim.

Step 2
- Based on the identified Claim, discuss the appropriate Math Practices associated with that Claim.

Step 3
- Discuss how you would use the Math Practices to teach the standard associated with the problem.

Match Claim and SMP Key

Sample Question A- Claim 1

MP- none

Got It? Do these problems to find out.

Solve each proportion.

a. $\dfrac{x}{4} = \dfrac{9}{10}$
b. $\dfrac{2}{34} = \dfrac{5}{y}$
c. $\dfrac{7}{3} = \dfrac{n}{21}$

Match Claim and SMP Key

Sample Question B- Claim 3

MP-3 and 6

13. **Justify Conclusions** Ramona and Josh earn money by babysitting. The amounts earned for one evening are shown in the table and graph. Who charged more per hour? Explain.

Ramona's Earnings

Time (hours)	Earnings ($)
2	18
3	27
4	36

Josh's Earnings

Match Claim and SMP Key

Sample Question C- Claim 4

MP- 2, 4 and 5

Real-World Link

Pets Some students are collecting money for a local pet shelter. The model shows that they have raised 60% of their $2,000 goal or $1,200.

	Percent	Decimal	Fractions
$2,000	100%	1	$\frac{5}{5}$ or 1
$1,600	80%		
$1,200	60%		
$800	40%		
$400	20%		$\frac{1}{5}$
$0	0%	0	0

1. Fill in the decimal and fractional equivalents for each of the percents shown in the model.

2. Use the model to write two multiplication sentences that are equivalent to 60% of 2,000 = 1,200.

Match Claim and SMP Key

Sample Question D- Claim 2

MP- 1, 5, 7, and 8

4. A pipe is leaking at 1.5 cups per day. About how many gallons per week is the pipe leaking? (*Hint*: 1 gallon = 16 cups) [Example 4]

Why Does This Matter?

Claim			
Target	**Target**	**Target**	**Target**

Standard	Standard	Standard	Standard	Standard

In SBAC, items are no longer written to individual standards.

Instead, items are written to Targets:
- Each Target features a Depth of Knowledge level(s)
- Each Target features an item type in which the Target may be assessed.

Claim → Targets → Standards

Claim

Target	Target	Target	Target

Standard	Standard	Standard	Standard	Standard

Each Target crosses over a cluster of standards that make up the skill(s) of the target

Target 9 crosses over standards:
RI.2 (ELA),
RH.2 (History), and
RST.2 (Science)

Explore the "Riverside" Document

Claim			
Target	**Target**	**Target**	**Target**
Stand ard · Stand ard	Stand ard · Stand ard		

Smarter Balanced Assessment Consortium
Claims, Targets, and Standard Alignment for ELA

The Smarter Balanced Assessment Consortium (SBAC) has created a hierarchy comprised of claims and targets that together can be used to make statements about student achievement. The claim is a broad statement that will outline the outcomes achieved with mastery of the standards within it. Within each claim are a variety of assessment targets that further clarify the knowledge and specific skills that cross over a cluster of standards.

The following tables layout the claims and targets for claims 1-4. Each target may feature a standard or a variety of standards that make up the skill(s) of the target. Each target also features a Depth of Knowledge level(s) and item type(s) in which the target may be assessed.
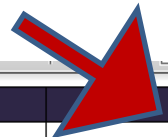
Item Types:
- MC – Multiple Choice, Single Correct Response
- MS – Multiple Choice, Multiple Correct Response
- HT – Hot Text, Select Text and Reorder Text
- EBSR – Evidence-based Selected Response
- MA – Matching Tables
- WR/CR – Written Response
- ST/CR – Short Text

Depth of Knowledge:
- 1 - Recall
- 2 - Skill/Concept
- 3 - Strategic Thinking
- 4 - Extended Thinking

Underlined standard content notes what each assessment target could assess.
Underlined standard title notes that more than one text or more than one text format is needed for assessment items.

Prepared for the Riverside County Office of Education by Key Data Systems.

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Claim	Target	Standards		
1: Students can read closely and analytically to comprehend a range of increasingly complex literary and informational text.	1: Key Details: Identify explicit textual evidence to support inferences made or conclusions drawn.	7.RL.1 Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.		
		7.RL.3 Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).		
	2: Central Ideas: Summarize central ideas/key events using key details from the text.	7.RL.2 Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.	2	SR, CR
	3: Word Meanings: Determine intended, precise, or nuanced meanings of words, including words with multiple meanings (academic/tier 2 words), based on context, word relationships, word structure (e.g., common Greek or Latin roots, affixes), or use of resources (e.g., dictionary, thesaurus, digital tools).	7.RL.4 Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.	1, 2	SR
		7.L.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 7 reading and content, choosing flexibly from a range of strategies.		
		7.L.5b Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.		
		7.L.5c Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., refined, respectful, polite, diplomatic, condescending).		
		7.L.6 Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.		

Objective 2

▶ Participants will analyze and revise teacher generated SBAC assessment questions to increase rigor using DOK's, Hess's Cognitive Matrix…..and Targets and Claims

Analyzing/Revising Your Assessment Questions

1) Go back to the questions you created from your first assessment. Using DOK's, Hess's Cognitive Matrix, Targets and Claims, determine the level of rigor.
How might you revise them ?
2)Look at your next set of teacher created assessments.
How might you revise them?

1. Riverside County Office of Education Site to find Claims and Targets Documents: http://www.rcoe.us/educational-services/instructional-services/california-common-core-state-standards/common-core-assessment/

2. SmarterBalanced.org document that also shows the alignment of Claims and Targets: http://www.smarterbalanced.org/wordpress/wp-content/uploads/2011/12/ELA-Literacy-Content-Specifications.pdf

Evaluation

At this time, please complete the online evaluation.
Bit.ly/isicevaluation
Thank you for your time!