How Smarter and How Balanced are the New Assessments in Mathematics? The Pitfalls and Possibilities of the Smarter Balanced Assessment

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College of Education
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ellismathed.weebly.com
1. What are (some) issues associated with large-scale standardized assessments in mathematics?
2. What is the “Smarter Balanced Assessment” (SBA) System?
3. How does the SBA interact with concerns about (in)equality in mathematics education?
Purposes for Assessment

- Monitor student progress
- Inform instructional decisions
- Evaluate student achievement
- Evaluate programs

NCTM, 1995
Early 20th Century Fundamental Belief

There are pre-existing, fixed differences in student (mathematical) ability that are both meaningful and measurable… and unevenly distributed among different populations.
Beliefs about Math Ability

“Whether they know why 76 is right depends…
“If why means because 53 = 50 + 3, 23 = 20 + 3 and 50 + 20 = 70, 3 + 3 = 6, they do not. Nor would most of them by any sort of teaching whatever.”

(E. L. Thorndike, Psychology of Arithmetic, 1923)
Beliefs about Math Ability

“[The] increase in the school population has given us a wider sampling of the general public and hence has in all probability lowered the level of ability…”

Raleigh Schorling, NCTM President in The First Yearbook of NCTM (1926, p. 102)
“Ethnology shows that racial progress has been closely paralleled by the ability to deal with mathematical concepts and relations. Child psychology shows the same for individual development.”

(Terman, *Genius and Stupidity*, 1906)
What Does the *Mean* Mean?
Classify children more accurately on the basis of native ability.

Necessity of pupils progressing along each of the so-called tracks.

“We may refer to these as classes for the ‘gifted,’ ‘bright,’ ‘average,’ ‘slow,’ and ‘special’ pupils.”

(Terman et al., *Intelligence Tests and School Reorganization*, 1922)
More problems than any pupil can solve in the time given
Each skill measured
One individual compared with another

(Brown & Coffman, How to Teach Arithmetic, 1914)
21st Century Beliefs

- Make sense of mathematics
- Mathematical reasoning matters
- All students are capable
- Equitable access and support
"The process of sorting students by their achievement level has the consequence of exposing minority and poor students to lower quality teachers and less-resourced classmates."

(Kalogrides & Loeb, 2013)
A Balanced Assessment System

**Online assessments that measure progress toward readiness for college and careers**

**Digital Library**
Available Now
Formative assessment resources and practices that teachers can use as needed throughout the year

**Interim Assessments**
Available Beginning Winter 2014-15
Optional assessments that allow educators to check student progress and provide information to inform instruction during the year

**Summative Assessments**
Available Spring 2015
Year-end assessments for grades 3-8 and 11 with a computer adaptive test and performance tasks in math and English

**Smarter Balanced**
gives educators information and tools to improve teaching and learning
There are 3 ways you can search for resources in the Digital Library

1) Categories
Filter using as many as 11 categories that are displayed above the resource cards. These include: Subject, Grade, Attribute of the Formative Assessment Process, CCSS, etc.

2) Resource Type
Instructional or professional resources

3) Filter & Sort
You can add filters to a search, or change the sort to show highest rated resources first
Intirimir Assessment Options

Interim Comprehensive Assessment (ICA)

Interim Assessment Blocks (IAB)
## IABs for Mathematics: Topics

<table>
<thead>
<tr>
<th>Grade 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio and Proportional Relationships</td>
</tr>
<tr>
<td>Number System</td>
</tr>
<tr>
<td>Expressions and Equations</td>
</tr>
<tr>
<td>Geometry</td>
</tr>
<tr>
<td>Statistics and Probability*</td>
</tr>
<tr>
<td>Mathematics Performance Task</td>
</tr>
</tbody>
</table>

* Dependent on item availability.

What is the Smarter Balanced Summative Assessment?

- Video from Riverside Unified School District
<table>
<thead>
<tr>
<th>Element</th>
<th>Smarter Balanced</th>
<th>CST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Scale gr 3-11</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Achievement Level Descriptions (ALDs)</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Adaptive</td>
<td>YES</td>
<td>NO (static form)</td>
</tr>
<tr>
<td>Forced Response Items</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Constructed Response (incl Performance Tasks)</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
Summative Assessment Components

**Computer Adaptive Testing (CAT) Portion**
- Built on solid technology
- Coverage of full breadth/depth of CCSS
- Precise assessment of all students

**Performance Task (PT) Portion**
- Deeper learning with real-life application and scenario-based tasks aligned to CCSS
- PT portion combined with CAT portion for overall score
- One or two class periods (classroom activity followed by PT)
What Is Adaptive Assessment?

- **Guessing Game**
  - Think of a number from 1 to 100.
  - For each of my guesses, tell me whether your number is larger or smaller (or equivalent!).

- **After each guess and response,**
  - How was my next guess determined? Why??
  - How did the probability of guessing the number correctly change?
Narrow in on “Trait” or “Ability”
Validity of Assessments

Based on EVIDENCE, not “features”

- Test Content
- Internal Structure
- Response Processes
- (Co)Relations to other variables
- Consequences of Testing
## Mathematics Content Specifications – Four Claims

<table>
<thead>
<tr>
<th>Claim #1</th>
<th><strong>Concepts &amp; Procedures</strong> “Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim #2</td>
<td><strong>Problem Solving</strong> “Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.”</td>
</tr>
<tr>
<td>Claim #3</td>
<td><strong>Communicating Reasoning</strong> “Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.”</td>
</tr>
<tr>
<td>Claim #4</td>
<td><strong>Modeling and Data Analysis</strong> “Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Claims</th>
<th>Grades 3–5</th>
<th>Grades 6–8</th>
<th>Grade 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim 1. Concepts and Procedures</td>
<td>54%</td>
<td>54%</td>
<td>56%</td>
</tr>
<tr>
<td>Claim 2. Problem Solving</td>
<td>24%</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Claim 4. Modeling and Data Analysis</td>
<td>22%</td>
<td>22%</td>
<td>21%</td>
</tr>
<tr>
<td>Claim 3. Communicating Reasoning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mathematics Content Specifications – Claim 1, Grade 6

### Grade 6 SUMMATIVE ASSESSMENT TARGETS
Providing Evidence Supporting Claim #1

**Claim #1:** Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.

Content for this claim may be drawn from any of the Grade 6 clusters represented below, with a much greater proportion drawn from clusters designated “m” (major) and the remainder drawn from clusters designated “a/s” (additional/supporting) – with these items fleshing out the major work of the grade. Sampling of Claim #1 assessment targets will be determined by balancing the content assessed with items and tasks for Claims #2, #3, and #4. Detailed information about how each Claim 1 assessment target is measured can be found in the Item Specifications “Mathematics Grades 6-8” zip folder available at [http://www.smarterbalanced.org/smarter-balanced-assessments/](http://www.smarterbalanced.org/smarter-balanced-assessments/).

<table>
<thead>
<tr>
<th>Ratios and Proportional Relationships (6.RP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target A [m]:</strong> Understand ratio concepts and use ratio reasoning to solve problems. (DOK 1, 2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Number System (6.NS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target B [m]:</strong> Apply and extend previous understandings of multiplication and division to divide fractions by fractions. (DOK 1, 2)</td>
</tr>
<tr>
<td><strong>Target C [a/s]:</strong> Compute fluently with multi-digit numbers and find common factors and multiples. (DOK 1, 2)</td>
</tr>
<tr>
<td><strong>Target D [m]:</strong> Apply and extend previous understandings of numbers to the system of rational numbers. (DOK 1, 2)</td>
</tr>
</tbody>
</table>
## Target Sampling Mathematics Grade 6

<table>
<thead>
<tr>
<th>Claim</th>
<th>Content Category</th>
<th>Assessment Targets</th>
<th>Standards</th>
<th>DOK</th>
<th>CAT</th>
<th>PT</th>
<th>CAT</th>
<th>PT</th>
<th>Total Items</th>
<th>Item Types</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>E. Apply and extend previous understandings of arithmetic to algebraic expressions.</td>
<td>6.EE.1 6.EE.2 6.EE.3 6.EE.4</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>MC, MS, DD, EQ, MA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>F. Reason about and solve one-variable equations and inequalities.</td>
<td>6.EE.5 6.EE.6 6.EE.7 6.EE.8</td>
<td>1,2</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>MS, EQ, TI, G, MA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A. Understand ratio concepts and use ratio reasoning to solve problems.</td>
<td>6.RP.1 6.RP.2 6.RP.3</td>
<td>1,2</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>MS, EQ, TI, G, MA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>G. Represent and analyze quantitative relationships between dependent and independent variables.</td>
<td>6.EE.9</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>MC, MS, EQ, MA, TI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</td>
<td>6.NS.1</td>
<td>1,2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>MC, DD, EQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D. Apply and extend previous understandings of numbers to the system of rational numbers.</td>
<td>6.NS.5 6.NS.6 6.NS.7 6.NS.8</td>
<td>1,2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>MC, MS, EQ, MA, DD, G, HS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supporting Cluster</td>
<td>C. Compute fluently with multi-digit numbers and find common factors and multiples.</td>
<td>6.NS.2 6.NS.3 6.NS.4</td>
<td>1,2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>EQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H. Solve real-world and mathematical problems involving area, surface area, and volume.</td>
<td>6.G.1 6.G.2 6.G.3 6.G.4</td>
<td>1,2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>EQ, G</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>I. Develop understanding of statistical variability.</td>
<td>6.SP.1 6.SP.2 6.SP.3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>MC, MA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>J. Summarize and describe distributions.</td>
<td>6.SP.4 6.SP.5</td>
<td>1,2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>MC, MS, EQ, DD, HS, MS</td>
<td></td>
</tr>
</tbody>
</table>
# DOK for Mathematics Standards

## Table 24. Depth of Knowledge Levels of All Mathematics Standards

<table>
<thead>
<tr>
<th>Grade or Conceptual Category</th>
<th>Total</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
<td>28</td>
<td>16</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>26</td>
<td>26</td>
<td>18</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
<td>29</td>
<td>20</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>24</td>
<td>18</td>
<td>22</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>28</td>
<td>26</td>
<td>25</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Number and Quantity</td>
<td>27</td>
<td>27</td>
<td>15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Algebra</td>
<td>27</td>
<td>26</td>
<td>21</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Functions</td>
<td>28</td>
<td>27</td>
<td>24</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Geometry</td>
<td>43</td>
<td>24</td>
<td>36</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>Statistics and Probability</td>
<td>31</td>
<td>27</td>
<td>29</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>316</strong></td>
<td><strong>282</strong></td>
<td><strong>250</strong></td>
<td><strong>67</strong></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

Percentage of Total Standards at DOK Level
(Standards may cover a range of DOK levels)

- 89% 79% 21% < 1%

A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost?
Summative Assessment CAT Items - 6th Grade

The coordinates of this parallelogram are given.

(2, 5)  
(−1, 1)  
(p, 5)  
(m, n)

Determine if each statement is True or False.

<table>
<thead>
<tr>
<th></th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>The length of the longer side is $p - 2$.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>The length of the longer side is $n + 1$.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>The short side is 4 units in length.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>$n = 5$</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>$m &gt; n$</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>$p = 2$</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Darcy likes to eat peanut butter and raisins on apple slices. On each apple slice she puts \( \frac{1}{16} \) cup of peanut butter and 8 raisins.

Darcy has \( \frac{2}{5} \) cup of peanut butter and 80 raisins. She eats a whole number of apple slices until the peanut butter is all gone. What fraction of the 80 raisins did she eat?
Summative Assessment Implementation

- Last 12 weeks (grades 3–8) and 7 weeks (grade 11) of instructional year
- No Time Limit
- Variety of item types
  - Selected response
  - Short constructed response
  - Extended constructed response
  - Technology enhanced
- A small number of items will require hand-scoring by “professionally trained scorers.”
Universal Tools, Designated Supports, and Accommodations

Universal Tools

Designated Supports

Accommodations

Available to All Students

Available to 504, IEP, ELL Students and others*

*Identified by educators according to state guidelines

Available to IEP and 504 Students

Example Embedded: zoom

Example Embedded: TTS test questions

Example Embedded: TTS reading passages

Example Non-embedded: Read aloud items

Example Non-embedded: Scratch Paper

Example Non-embedded: Read Aloud Passages

George earns $455 each week. He receives a 20% raise.

How can George calculate his new weekly pay rate?

Select all calculations that will result in George's new weekly pay rate.

- divide $455 by 0.20
- divide $455 by 1.20
- multiply $455 by 0.20
- multiply $455 by 1.20
- solve for x: \( \frac{x}{455} = \frac{120}{100} \)
- solve for x: \( \frac{455}{x} = \frac{20}{100} \)
Teacher-Led Classroom Activity
Individually administered, computer-generated task
One per content area – *for math, each PT has a set of 4-6 questions*
Hand-scored by trained scorers using rubrics.
Performance Task Demo: Gr 8

- chicken, dog, horse, rat
Performance Task Demo: Gr 8

- Count the number of beats in 20 seconds.
- How many beats per minute?
A study states that the relationship between an animal’s pulse rate and body weight is approximately linear. The study data are below.

Table 1. Average Body Weight and Average Pulse Rate of Seven Animals

<table>
<thead>
<tr>
<th>Animal</th>
<th>Average Body Weight (in kilograms)</th>
<th>Average Pulse Rate (in beats per minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat</td>
<td>3</td>
<td>130</td>
</tr>
<tr>
<td>Goat</td>
<td>28</td>
<td>75</td>
</tr>
<tr>
<td>Sheep</td>
<td>56</td>
<td>75</td>
</tr>
<tr>
<td>Pig</td>
<td>192</td>
<td>95</td>
</tr>
<tr>
<td>Ox</td>
<td>362</td>
<td>48</td>
</tr>
<tr>
<td>Cow</td>
<td>465</td>
<td>66</td>
</tr>
<tr>
<td>Horse</td>
<td>521</td>
<td>34</td>
</tr>
</tbody>
</table>
The data from Table 1 are plotted below. Use the Connect Line tool to create a linear model of these data.

2.

What is the equation of the line you drew in Item 1?
Scoring Written Performance Task Responses

Trends that appeared for mathematics items:

1. Human agreement was highest for the Use and Apply item type.
2. Human agreement was higher when the rubric contained an exhaustive list of correct responses.
3. Human agreement was higher when precise scoring rules were given for each score point.

Who Is Scoring SBAC Exams?

KCRA News Story about SBAC Scoring
Are College Graduates Ready for Scoring?

Dear Jack, 

[Diagram with numbers and arrows indicating scoring]
Are College Graduates Ready for Scoring?

Dear Jack,

Don't feel bad. I have a Bachelor of Science Degree in Electronics Engineering which included extensive study in differential equations and other higher math applications. Even I cannot explain the Common Core mathematics approach, nor get the answer correct. In

The answer is solved in under 5 seconds. The process used is ridiculous and would result in termination if used.

Sincerely,
Frustrated Parent

COMMON CORE......
Making parents feel stupid all over the state....as if Algebra didn't suck enough!!
Score Report (Grade 4 Math)

Note the choice of language. There are no judgements or claims of potential.
What do the Scores Mean?

- **Achievement Level Descriptors**
  - Grade level and Domain specific indicators
  - See pp. 1-61 of the *Math ALD document*

- **Example Grade 6, Ratio and Proportion**

<table>
<thead>
<tr>
<th>The student who just enters Level 3 should be able to:</th>
<th>The student who just enters Level 4 should be able to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Solve unit rate problems.</td>
<td>• Solve unfamiliar or multi-step problems by finding the whole, given a part and the percent.</td>
</tr>
<tr>
<td>• Solve percent problems by finding the whole, given a part and the percent.</td>
<td>• Understand and explain ratio relationships between any two number quantities.</td>
</tr>
<tr>
<td>• Describe a ratio relationship between any two number quantities and understand the concept of unit rate in problems (denominators less than or equal to 12).</td>
<td>• Identify relationships between models or representations.</td>
</tr>
</tbody>
</table>
“At the high school level, a score at or above Level 3 in 11th grade is meant to suggest conditional evidence of readiness for entry-level, transferable, credit-bearing college courses, assuming the successful completion of senior year coursework” (Darling-Hammond et al., 2015, p. 12)
<table>
<thead>
<tr>
<th>Target</th>
<th>Performance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concepts and Procedures</td>
<td>Performance Level</td>
</tr>
<tr>
<td>Write and interpret numerical expressions.</td>
<td></td>
</tr>
<tr>
<td>Analyze patterns and relationships.</td>
<td></td>
</tr>
<tr>
<td>Understand the place value system.</td>
<td></td>
</tr>
<tr>
<td>Perform operations with multi-digit whole numbers and with decimals to hundredths.</td>
<td></td>
</tr>
<tr>
<td>Use equivalent fractions as a strategy to add and subtract fractions</td>
<td></td>
</tr>
<tr>
<td>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</td>
<td></td>
</tr>
<tr>
<td>Convert like measurement units within a given measurement system.</td>
<td></td>
</tr>
<tr>
<td>Represent and interpret data.</td>
<td></td>
</tr>
<tr>
<td>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</td>
<td></td>
</tr>
<tr>
<td>Graph points on the coordinate plane to solve real-world and mathematical problems.</td>
<td></td>
</tr>
<tr>
<td>Classify two-dimensional figures into categories based on their properties.</td>
<td></td>
</tr>
</tbody>
</table>

http://www.ode.state.or.us/wma/teachlearn/testing/oaks/oaks_reports_userguide.pdf
## Summative Results 2015

### CAASPP Test Results

<table>
<thead>
<tr>
<th></th>
<th>Percent Standard Met or Standard Exceeded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English Language Arts/Literacy</strong></td>
<td></td>
</tr>
<tr>
<td>Orange County</td>
<td>45%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>31%</td>
</tr>
<tr>
<td>Riverside</td>
<td>28%</td>
</tr>
<tr>
<td>San Bernadino</td>
<td>25%</td>
</tr>
<tr>
<td>San Diego</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>53%</td>
</tr>
<tr>
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FIRST DROP IN MATH

In 2015, average NAEP math scores for fourth- and eighth-grade students dropped for the first time ever.

79 percent of NAEP items in 4th grade math assessed content included in the CCSS at grade 4 or below.

But by domain:
- Measurement 95%
- Number and Operations 90%
- Geometry 68%
- Algebra 62%
- Data and Statistics 47%

NAEP Grade 4 by Domain

NAEP Grade 4 Math declines are largest in Geometry and Data Analysis. Number Properties and Operations show gains.

Andrew Ho @AndrewDeanHo · Oct 28
#NAEP Math scores drop in Data Analysis and Geometry :( Kids got better at number operations. #s61edmeas @NAEP_NCES
Figure B.3 Scatterplot of the EAP-HSM Scale Scores with the Smarter Balanced FT Scale Scores

- Conditionally Exempt
- Unconditionally Exempt

≥2628 “Met Standard”
≥2718 “Exceeded Standard”

y = 0.07x + 738.05
R² = 0.37

What does this tell you about EAP and SBA scores?

“The Smarter Balanced assessments were not designed or validated for purposes such as assessing whether students should be promoted to the next grade or whether a student has demonstrated the competencies needed to graduate from high school.” (Darling-Hammond, et. al., 2015, p. 13)
“Yawning Achievement Gap”

“In the last year of the STAR tests, more than half of all students met the math standards and just over 56 percent met English standards. In addition, the achievement gap appeared to be narrowing over time.”

“In SBAC math, scores were lower and the gaps wider: 69 percent of Asians, 49 percent of whites, 21 percent of Latinos and 16 percent of African-Americans met or exceeded standards.”

http://www.mercurynews.com/california/ci_28782503/califs-test-scores-reveal-yawning-achievement-gap
How Might SBA Contribute to (In)equality in Math Education?

- Standardization amidst variation
  - Reduces “diversity” to a set of “accommodations”
  - Ignores issues of access...
    - to well-prepared teachers
    - to well-written curriculum materials
    - to out-of-classroom resources

- Lack of expert knowledge of hand-scorers
  - Reduces content to bullets on a rubric
  - Devalues student thinking/reasoning

- Time spent on test prep and testing
Purposes for Assessment

- Monitor student progress
- Inform instructional decisions
- Evaluate student achievement
- Evaluate programs

NCTM, 1995
What are the Opportunities Afforded to Address Equity Concerns?

1. How is the Smarter Balanced Assessment system being used to inform:
   • Your instructional decisions and practices?
   • Your department’s/team’s decisions and practices?
   • Your school’s structures/strategies?
   • Your district’s policies and practices?

2. Is it worth the time??
“Ability grouping in the school's classrooms is fluid and temporary”

“Any students who master concepts can move upward between groups and student clusters might look different from subject to subject and unit to unit.”

We Must (Continue To)...

- Recognize mathematics “learning” (and failure) as a product of our unique historical practices.
- Demand and lead efforts to reevaluate the design and use of assessment.
- Expect students can learn to make sense of mathematics and change our teaching and/or schooling practices when this is not happening.

Interrupt, Resist, Redefine Practices
Thank You! Questions?
References


