Performance Standards Setting for High School Exit Exams and WA-AIM

Special Meeting of the State Board of Education
August 5, 2015

Orientation

- Introductions
- Topics
  - WA Access to Instruction & Measurement (WA-AIM)
  - Exit Exam Cut Scores
    - Year 1 Math End of Course exit exam
    - Year 2 Math End of Course exit exam
    - Smarter Balanced HS English Language Arts (ELA) test
    - Smarter Balanced HS Mathematics test

Transition to New Standards

	Old Standards	New Standards	
		Accountability	**Exit Exam**
English Language Arts	HSPE - Rdg	Smarter Balanced HS ELA	*Smarter Balanced HS ELA*
	HSPE - Wrtg		
Mathematics	EOC – Year 1	Smarter Balanced HS Math	*EOC – Yr 1 Exit Exam*
	EOC – Year 2		*EOC – Yr 2 Exit Exam*
ELA, Math, Science	WAAS -Portfolio	*WA-AIM*	*WA-AIM*

New Standards, New Tests, New Baselines

- Should not compare proficiency rates to previous tests
  - Increased rigor in learning standards
  - Increased rigor of tests

2015 results will set a new baseline of student performance in Washington

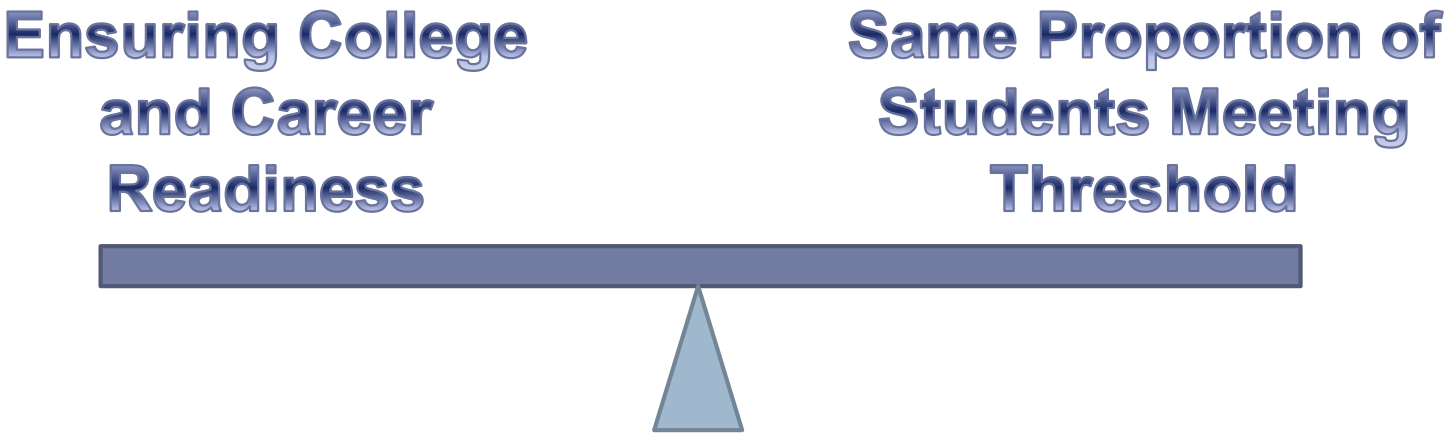
- Think of the standards and the assessment as a new targets with new results….I envision two mountains:

- People who successfully climb Mt Rainer (at 14,000 ft), will find Mt McKinley (at 20,000 ft) more challenging.
- Some will be able to meet the challenge, some will be close and some who previously were able to summit Rainier will not be able to summit McKinley at first.

New Standards, New Tests, New Baselines

- Should not compare proficiency rates to previous tests
  - Increased rigor in learning standards
  - Increased rigor of tests
- BUT, looking back is necessary for assessment graduation requirements
  - Legislature gave SBE authority to set lower performance standards on exit exams
  - SBE position is to find cut scores that yield 'equal impact' initially

Your Task is a Balancing Act



(WA –AIM)

Topics

- Overview of WA-AIM
  - Who is eligible to be assessed with WA-AIM?
  - What are the components of WA-AIM?
  - What is scored on WA-AIM?
- Standard setting process
- Results and recommendations

Background of **WA**shington **A**ccess to **I**nstruction & **M**easurement – WA-AIM

- Designed for students with **significant cognitive challenges** (~1% of students) for whom the general assessments, even with accommodations, are not accessible.
- WA-AIM is based on learning standards adapted from the state content standards.
- Performance tasks linked to the adapted learning standards are used by educators to assess student knowledge and skills in a pre and post format.

Portfolio Data Collection Structure

Baseline/Placement:

For each content area being assessed, determine best access point for student's year-end measure

Fall/Winter

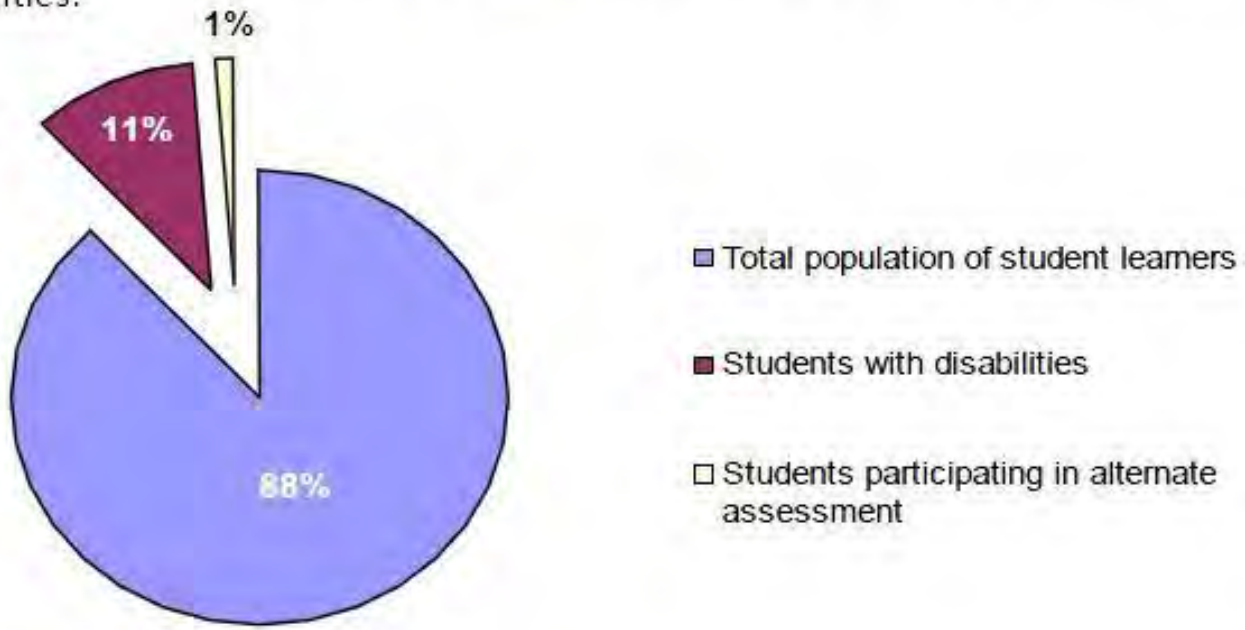
Final Data Point:

Assess student against content standards as represented in the selected access points

Winter/Spring

Student Participants – WA-AIM

Figure 1 below shows the number of students participating in alternate assessments based on alternate achievement standards, compared to the total population of student learners and students with disabilities:



Purposes of WA-AIM

- WA-AIM serves as the alternate assessment, in grades 3-8 and 11, for accountability purposes in ELA, mathematics, and science.

- In high school, students must display a minimum level of competency in ELA and math in order to earn a certificate of individual achievement/high school diploma.

Grades and Contents Assessed with WA-AIM

Grade	ELA	Math	Science
3	X	X	
4	X	X	
5	X	X	X
6	X	X	
7	X	X	
8	X	X	X
10			
11	X	X	X*
12	*Possible*	*Possible*	*Possible*

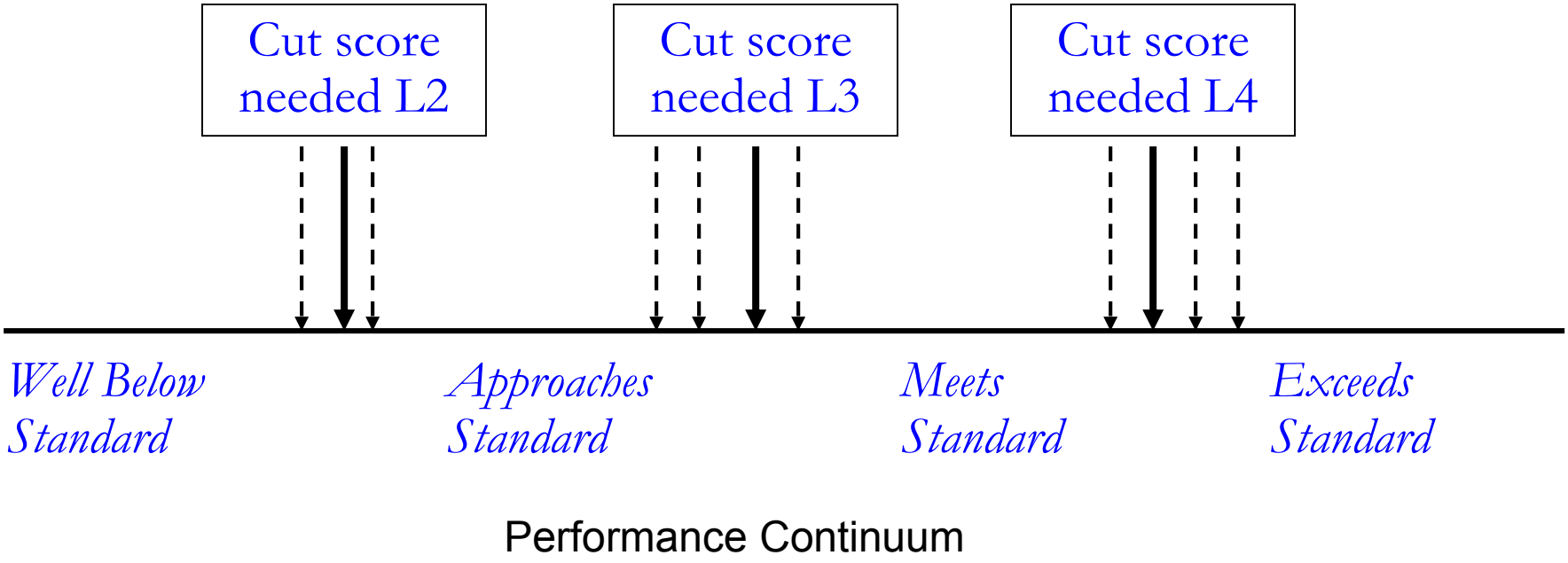
Standard Setting Establishes:

- What score is needed to earn a Level 4- Exceeds Standard, Level 3- Meets Standard, or Level 2 – Approaches Standard, etc.
  - These were the outcomes from the work of the standard setting panelists
  - Reviewed the *Alternate Achievement Level Descriptors* to determine meaning behind *Exceeds*, *Meets*, *Approaches Standard,* and *Well Below* to guide work.

Performance Standard Setting Process

1. Convened a panel of special education and regular classroom teachers (n=80)
2. Utilized a "Body of Work" process
3. Set standards for each grade band and content area
4. Had a cross-grade/content area Synthesis Discussion to review overall program logic and articulation

Based on Alternate Achievement Level Descriptors, panelists recommended 3 cut scores…



General Process

Classify each profile into one of four performance levels based on:

- Alternate Achievement Level Descriptors
- How the students performed on the portfolios

Before Classifying Student Profiles….

- Panelists became familiar with:
  - Access Point Framework
  - Achievement Level Descriptors
    - Meaning of each level
    - Knowledge, skills and abilities associated with each level
  - Student profiles
    - Knowledge, skills and abilities demonstrated by the recorded data

Student Profiles

- Profiles covered the range of possible total scores
  - Presented in random order based on raw scores associated with the five assessed standards.
- Profiles used not as indication of typical scores, but ensuring all possible access point/score combinations were available.
  - Not a frequency distribution indicator
- Panelists classified 100 student profiles at a grade level/content area combination.

Round 1

- **Individual Work:**
  - Review profiles
  - Focus on the knowledge, skills, and abilities represented by the profiles
  - Determine match of Achievement Level Descriptor to represented knowledge, skills, and abilities
  - Classify profiles to appropriate achievement level
  - Complete the rating form

Round 2

- **Group Work:**
  - Discuss profile classifications in relation to
  - Average round 1 results
  - Other panelists ratings
  - Knowledge, skills and abilities
- **Individual Work:**
  - Determine match of Achievement Level Descriptor to represented knowledge, skills, and abilities
  - Classify profiles to appropriate achievement level
  - Complete the rating form

Panelists were reminded:

- Not necessary for panelists to reach consensus as to how the profiles are to be categorized.
  - Group discussion / Individual Rating
- Remain open-minded when listening to your colleagues' rationales for their ratings.
- May change your mind as a result of the discussions.
- Use **best judgment** in each round of rating.

Synthesis Discussion
(aka *Articulation Committee*)

After all content area groups completed Round 2 for each grade span, table leader representatives from each content area met together to look at results across grades and provide feedback.

- Attention was paid to cohesiveness and logic with respect to interplay of cut-scores and student results
- Impact/benchmark data was available

WA-AIM Standard Setting Results

Recommendations

- National Technical Advisory Committee reviewed processes & outcomes on July 29, 2015.
  - Gave approval to the standard setting recommendations
- Superintendent Dorn reviewed outcomes with staff and presents the following as recommendations to SBE for adoption as the WA-AIM cut-scores.

WA-AIM ELA Proposed Cut Scores

ELA	Level 2	Level 3	Level 4
Grade 3	109	124	150
Grade 4	107	125	158
Grade 5	108	129	162
Grade 6	110	125	159
Grade 7	108	123	154
Grade 8	110	123	150
HS	109	123	151

WA-AIM ELA Cut Scores - Impact

ELA	L1	L2	L3	L4	L3 & Above
Grade 3	15.3%	37.1%	28.1%	19.5%	47.6%
Grade 4	10.9%	47.1%	32.6%	9.4%	42.0%
Grade 5	10.0%	48.6%	33.3%	8.2%	41.4%
Grade 6	25.9%	42.4%	26.4%	5.3%	31.7%
Grade 7	24.7%	50.3%	22.4%	2.6%	25.0%
Grade 8	32.4%	37.6%	23.3%	6.7%	30.0%
HS	42.0%	44.6%	12.1%	1.3%	13.4%

Proficiency

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WA-AIM Math Proposed Cut Scores

Math	Level 2	Level 3	Level 4
Grade 3	108	129	161
Grade 4	106	126	161
Grade 5	106	120	153
Grade 6	109	131	160
Grade 7	109	124	163
Grade 8	112	133	162
HS	108	120	146

WA-AIM Math Cut Scores - Impact

Math	L1	L2	L3	L4	L3 & Above
Grade 3	12.6%	42.3%	25.7%	19.4%	45.1%
Grade 4	8.4%	40.7%	31.1%	19.7%	50.8%
Grade 5	8.3%	40.9%	32.5%	18.3%	50.8%
Grade 6	21.0%	40.9%	22.1%	16.0%	38.2%
Grade 7	35.9%	34.6%	23.2%	6.3%	29.4%
Grade 8	34.2%	40.9%	21.3%	3.6%	24.9%
HS	38.2%	36.1%	18.1%	7.6%	25.7%

Proficiency

WA-AIM Science Proposed Cut Scores

Science	Level 2	Level 3	Level 4
Grade 5	110	127	166
Grade 8	107	128	158
HS	*Note 1*		

Note 1: HS Science not administered due to accountability testing completed the previous school year

WA-AIM Science Cut Scores - Impact

	Level 1	Level 2	Level 3	Level 4	Level 3 and Above
Grade 5	26.8%	40.2%	30.0%	3.0%	33.0%
Grade 8	20.4%	48.1%	26.5%	5.0%	31.5%

Proficiency

Evaluation

- At several points in the process, we asked participants to evaluate the standard setting procedures.
  - Participants reported the standards setting methodology allowed for an authentic connection with student work.
  - General educators reported the process was exceptionally informative as they have limited experience with the portfolio assessment.
  - Across the board, participants reported that the dialogue in their respective panels was student centered, professional, and productive.
  - The articulation committee was pleased at how close the cut scores for each content area were across grade level.

WA-AIM Proposed Exit Exam Cut Scores and Impact

ELA	Target Rate	Cut Score
Grade 11 – using 3 yr avg	83.8% (16.2%)	104 Level 1

Math	Target Rate	Cut Score
Grade 11 – using 3 yr avg	86.6% (13.4%)	103 Level 1

WA-AIM High School Cut Scores	Level 2	Level 3	Level 4
ELA	109	123	151
Math	108	120	146

Questions & Discussion

Math End of Course Tests, Year 1 and Year 2 Math

Background of the EOC Assessments

- Two EOCs assess what is in common, or in the overlap, of Algebra 1/Integrated Mathematics 1 and of Geometry/ Integrated Mathematics II for purposes of satisfying the graduation requirement.
- Students must meet standard on one or the other EOC, or an alternative, in order to earn a certificate of academic achievement/high school diploma.
- New tests were needed because of new math standards.
- These tests are **not** used for accountability.
- First administration was Spring 2015; last administration likely Spring 2018.

Assessment Development Process

Date	Event
2011	New math standards adopted
April 2014	Test map meeting
Summer 2014	Item writing - Pilot Items EOC 2
Jan 2015	SBE decision to have "equal impact"
Feb 2015	Test build
May/June 2015	EOC Exit Exams
July 2015	EOC data determinations
July 2015	ALD review meeting
August 2015	SBE approves "equal impact" determination

Determination of the EOC Cut Scores

- Equal impact cut scores would yield comparable "passing" rates on the new tests as the former tests.
- The target impact percentage will be equal to the average of the last three years.

Algebra/Integrated I 2012-14	
Level	Percent Met
1	23
2	20
3	30
4	27

57%

Geometry/Integrated I 2012-14	
Level	Percent Met
1	12
2	19
3	32
4	37

69%

Proposed EOC Cut Scores

	Math Year 1		Math Year 2	
	Raw Score	Impact	Raw Score	Impact
Level 1	NA	24.1%	NA	12.1%
Level 2	15	18.8%	9	20.1%
Level 3	19	29.5%	12	29.3%
Level 4	24	27.6%	16	38.5%
Meeting Exit Exam L3 & L4	57%		68%	

Questions & Discussion

Smarter Balanced English Language Arts Test

ELA College and Career Ready Proficiency Rates

	Proficiency Rate	Participation
HS – Sneak peek	62%	NA
HS - Updated	64%	NA
Grade 10	71%	90-95%
Grade 11	51%	~50%

ELA Performance Levels

		Performance Level				College Career Ready	Total
		1	2	3	4	Yes	
Grade 10	Count	6252	12556	25182	21474	46656	65464
	% of Assessed	9.6%	19.2%	38.5%	32.8%	71.3%	100.0%
Grade 11	Count	8989	9763	12042	7319	19361	38113
	% of Assessed	23.6%	25.6%	31.6%	19.2%	50.8%	100.0%
Total	Count	15241	22319	37224	28793	66017	103577
	% of Assessed	14.7%	21.5%	35.9%	27.8%	63.7%	100.0%

Who do we have in our data?

	ELA	Math
11th graders enrolled in 2014 – 2015	81,225	81,225
11th graders who took Smarter Balanced	38,113	35,248
11th graders who took Smarter Balanced and have prior scores	33,567	31,957
10th graders enrolled in 2014 - 2015	81,934	81,934
10th graders who took Smarter Balanced	65,464	NA

Comparability of 2015 Testers to All

		Race								
		American Indian	Asian	Black	Hispanic	More Than One Race	Pacific Islander	unknown	White	Total
Grade 11 All Current Class of 2016	Count	1258	5950	3674	14908	4804	698	13	49950	81255
	% within Group	1.5%	7.3%	4.5%	18.3%	5.9%	.9%	.0%	61.5%	100.0%
Grade 11 Matched Cohort - ELA	Count	587	2131	1401	7089	1842	310	0	20207	33567
	% within Group	1.7%	6.3%	4.2%	21.1%	5.5%	.9%	0.0%	60.2%	100.0%
Grade 11 Matched Cohort - Math	Count	541	2013	1274	6981	1769	286	0	19093	31957
	% within Group	1.7%	6.3%	4.0%	21.8%	5.5%	.9%	0.0%	59.7%	100.0%
Grade 10 - 3 Yr Avg	Count	1070	5612	3190	12502	3978	575	215	44479	71621
	% within Group	1.5%	7.8%	4.5%	17.5%	5.6%	.8%	.3%	62.1%	100.0%
Grade 10 – Smarter Balanced ELA testers	Count	904	4520	2694	12317	3971	516	1887	38655	65464
	% within Group	1.4%	6.9%	4.1%	18.8%	6.1%	.8%	2.9%	59.0%	100.0%

Comparability of 2015 Testers to All

		Special Ed	ELL	Low Income	Total
Grade 11 All Current Class of 2016	Count	8300	2767	32069	81255
	% within Group	10.2%	3.4%	39.5%	100.0%
Grade 11 Matched Cohort - ELA	Count	3084	1241	14685	33567
	% within Group	9.2%	3.7%	43.7%	100.0%
Grade 11 Matched Cohort - Math	Count	2754	1258	14102	31957
	% within Group	8.6%	3.9%	44.1%	100.0%
10th Grade - 3 Yr Avg	Count	6596	2651	28182	71621
	% within Group	9.2%	3.7%	39.3%	100.0%
Grade 10 – Smarter Balanced ELA testers	Count	4852	2532	26178	65464
	% within Group	7.4%	3.9%	40.0%	100.0%

Is the Gr 11 Matched Cohort Skewed?

Prior Test Performance	All Grade 11 Students	Grade 11 Testers in Matched Cohort
Reading HSPE	85.7%	84.1%
Writing HSPE	88.9%	87.2%
Year 1 Math EOC	74.3%	72.3%
Year 2 Math EOC	77.8%	72.8%

ELA Exit Exam Options and Impact

	Target Rate	Cut Score	Grade 11 Matched	Grade 11 All	Grade 10 All
Grade 11 – using matched cohort	79.0% (21.0%)	2487 Level 1	79%	77.6%	91.1%

Smarter Balanced ELA	Level 1	Level 2	Level 3	Level 4
High school Score Ranges	2299-2492	2493-2582	2583-2681	2682-2795

ELA Exit Exam Options and Impact

	Target Rate	Cut Score	Grade 11 Matched	Grade 11 All	Grade 10 All
Grade 11 – using matched cohort	79.0% (21.0%)	2487 Level 1	79%	77.6%	91.1%
Grade 10 – using 3 year avg	80.1% (19.9%)	2548 Level 2	NA	61.2%	80.1%

Smarter Balanced ELA	Level 1	Level 2	Level 3	Level 4
High school Score Ranges	2299-2492	2493-2582	2583-2681	2682-2795

ELA Exit Exam Options and Impact

	Target Rate	Cut Score	Grade 11 Matched	Grade 11 All	Grade 10 All
Grade 11 – using matched cohort	79.0% (21.0%)	2487 Level 1	79%	77.6%	91.1%
Grade 10 – using 3 year avg	80.1% 19.9%	2548 Level 2	NA	61.2%	80.1%
Level 2 CCR	NA	2493 Level 2	NA	76.2%	90.3%
Level 3 CCR	NA	2583 Level 3	NA	50.6%	71%

Smarter Balanced ELA	Level 1	Level 2	Level 3	Level 4
High school Score Ranges	2299-2492	2493-2582	2583-2681	2682-2795

Math Performance Levels

Math		Performance Level				College Career Ready	Total
		1	2	3	4	Yes	
Grade 11	Count	16,057	8,748	6,473	3,666	10,139	34,944
	% of Assessed	46%	25%	18.5%	10.5%	29%	100%

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Math Exit Exam Options and Impact

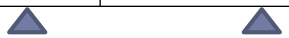
	Target Rate	Cut Score	Grade 11 Matched	Grade 11 All	Grade 10 All
Grade 11 – using matched cohort	75.6% (24.4%)	2469 Level 1	75.6%	74.5%	NA

Smarter Balanced Math	Level 1	Level 2	Level 3	Level 4
High school Score Ranges	2280-2542	2543-2627	2628-2717	2718-2862

Math Exit Exam Options and Impact

	Target Rate	Cut Score	Grade 11 Matched	Grade 11 All	Grade 10 All
Grade 11 – using matched cohort	75.6% (24.4%)	2469 Level 1	75.6%	74.5%	NA
Between 2 and 3, equivalent to ELA		2595 Level 2	38.9%	37.8%	NA

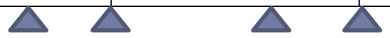
Smarter Balanced Math	Level 1	Level 2	Level 3	Level 4
High school Score Ranges	2280-2542	2543-2627	2628-2717	2718-2862



Math Exit Exam Options and Impact

	Target Rate	Cut Score	Grade 11 Matched	Grade 11 All	Grade 10 All
Grade 11 – using matched cohort	75.6% (24.4%)	2469 Level 1	75.6%	74.5%	NA
Between 2 and 3, equivalent to ELA		2595 Level 2	38.9%	37.8%	NA
Level 2 CCR	NA	2543 Level 2	54.8%	53.6%	NA
Level 3 CCR	NA	2628 Level 3	29.5%	28.6%	NA

Smarter Balanced Math	Level 1	Level 2	Level 3	Level 4
High school Score Ranges	2280-2542	2543-2627	2628-2717	2718-2862



Feedback from Secondary Students

- There were over 2500 responses for grades 6-high school.
  - Almost 55% of respondents preferred online to paper/pencil.
  - In general, the online tools were the most favorite feature of taking the test online.
  - Many comments were not repeatable or are inappropriate for distribution.

Feedback from Secondary Students, cont'.

Check the features of the test that you liked.	
Online tools	57.6%
Keyboarding/typing	55.4%
Questions	27.7%
Passages/texts	21.8%
Navigating	17.9%
Other (Calculator, Being able to mark and go back, MC Questions, Pausing, Zoom, Highlighter, Online Thesaurus and Dictionary, Spell Check, Split Screen)	20.7%

Feedback from Secondary Students, cont'.

Which types of questions did you NOT like?	
Long written responses	82.1%
Problems with more than one answer	55.6%
Graphs	52.0%
Drag and Drop	40.9%
Short written responses	37.6%
Multiple choice	10.6%

Feedback from Secondary Students, cont'.

How did this test compare to what you expected?	
It was like I expected	24.8%
It was easier than I expected	19.3%
It was harder than I expected	25.1%
I did not know what to expect	30.8%

Questions & Discussion


Thank you!

Subgroup Impact of ELA Cut Scores

% meeting exit exam standard	Race							
	American Indian	Asian	Black	Hispanic	More Than One Race	Pacific Islander	White	Un-known
Grade 11 – based on matched cohort cut	67.3%	83.6%	63.6%	70.6%	77.7%	60.5%	81.9%	72.1%
Grade 11 – based on Gr 10 3 year avg	45.6%	71.2%	44.4%	48.8%	62.5%	39.2%	67.6%	54.2%
Grade 11 – based on CCR Level 3 cut	33.6%	60.9%	33.4%	36.4%	52.2%	30.0%	57.5%	42.1%
Grade 10 – based on matched cohort cut	78.4%	94.9%	82.9%	85.5%	91.9%	82.8%	94.0%	82.4%
Grade 10 – based on Gr 10 3 year avg cut	60.5%	88.9%	66.4%	68.1%	81.9%	63.2%	85.4%	66.9%
Grade 10 – based on CCR Level 3 cut	48.5%	82.4%	53.3%	55.5%	73.4%	49.0%	77.6%	57.0%
Historical comparison	62.6%	86.8%	65.0%	68.0%	82.4%	60.5%	84.7%	75.7%

Subgroup Impact of ELA Cut Scores

% meeting exit exam standard	Sub-group		
	Special Educ	ELL	Low Income
Grade 11 – based on matched cohort cut	45.8%	39.2%	70.0%
Grade 11 – based on Gr 10 3 year avg cut	23.3%	15.6%	50.9%
Grade 11 – based on CCR Level 3 cut	14.3%	7.0%	38.8%
Grade 10 – based on matched cohort cut	61.4%	55.4%	85.4%
Grade 10 – based on Gr 10 3 year avg cut	36.0%	27.3%	69.5%
Grade 10 – based on CCR Level 3 cut	24.4%	25.0%	57.6%
Historical comparison	27.7%	20.3%	68.1%

Subgroup Impact of Math Cut Scores

% meeting exit exam standard	Race							
	American Indian	Asian	Black	Hispanic	More Than One Race	Pacific Islander	White	Un-known
Grade 11 – based on matched cohort cut	63.9%	86.5%	59.5%	66.8%	73.7%	58.9%	78.8%	66.5%
Grade 11 – based on CCR Level 3 cut	13.8%	50.5%	13.7%	15.0%	29.7%	13.0%	34.1%	21.8%
Historical comparison	51.5%	85.3%	53.0%	58.7%	72.5%	53.6%	77.1%	40.0%

Subgroup Impact of Math Cut Scores

% meeting exit exam standard	Sub-group		
	Special Educ	ELL	Low Income
Grade 11 – based on matched cohort cut	34.1%	45.9%	67.2%
Grade 11 – based on CCR Level 3 cut	3.9%	6.7%	17.3%
Historical comparison	21.8%	26.3%	60.6%

Subgroup Impact of EOC Math Cut Scores

% meeting exit exam standard	Race							
	American Indian	Asian	Black	Hispanic	More Than One Race	Pacific Islander	White	Un-known
Math Year 1 EOC	38%	66%	39%	46%	59%	42%	66%	38%
Math Year 2 EOC	57%	73%	54%	60%	72%	60%	75%	43%
Historical comparison								
Math Year 1 EOC	35%	75%	35%	40%	59%	39%	64%	51%
Math Year 2 EOC	49%	81%	45%	51%	71%	46%	77%	64%

Subgroup Impact of EOC Math Cut Scores

% meeting exit exam standard	Sub-group		
	Special Educ	ELL	Low Income
Math Year 1 EOC	26%	27%	48%
Math Year 2 EOC	51%	46%	62%
Historical comparison			
Math Year 1 EOC	16%	24%	43%
Math Year 2 EOC	35%	33%	56%