USING DATA FROM SAT AND PSAT

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AGENDA

- District Background

- Chronic absenteeism

- Student achievement

- Student growth

- Next steps

DISTRICT BACKGROUND

- The SAT was adopted state-wide in Connecticut as the grade 11 assessment for accountability in 2015-2016

- The district also began administering PSAT 8/9, PSAT/NMSQT, and SAT in the fall, in addition to the spring grade 11 CT-SAT for accountability

CHRONIC ABSENTEEISM

- Impact of chronic absenteeism on SAT (from EIT)

TOTAL

		N	Mean	
TOTAL	Chronically Absent	236	789.62	
	NOT Chronically Absent	798	874.61	85

MATH

		N	Mean	
MATH	Chronically Absent	236	387.92	
	NOT Chronically Absent	798	427.34	39

EBRW

		N	Mean	
EBRW	Chronically Absent	236	401.69	
	NOT Chronically Absent	798	447.27	46

STUDENT ACHIEVEMENT (IPI)

Indicator 1: Grade 3 ELA Calculation Example

- A student with a scale score of 2380 (lower part of Level 2) will get 57.5 index score points while another student with a scale score of 2419 (upper part of Level 2) will get 65.9 index score points.

$$\text{Index} = \frac{Scale\ Score - LOSS}{Range} * 110$$

Ultimate target for every Performance Index is 75

INDEX

110

VERTICAL SCALE SCORE

Highest Obtainable Scale Score *(2623)*

Level 4

Level 3

Level 2

Level 1

0

Lowest Obtainable Scale Score *(2114)*

CSDE

CONNECTICUT STATE DEPARTMENT OF EDUCATION
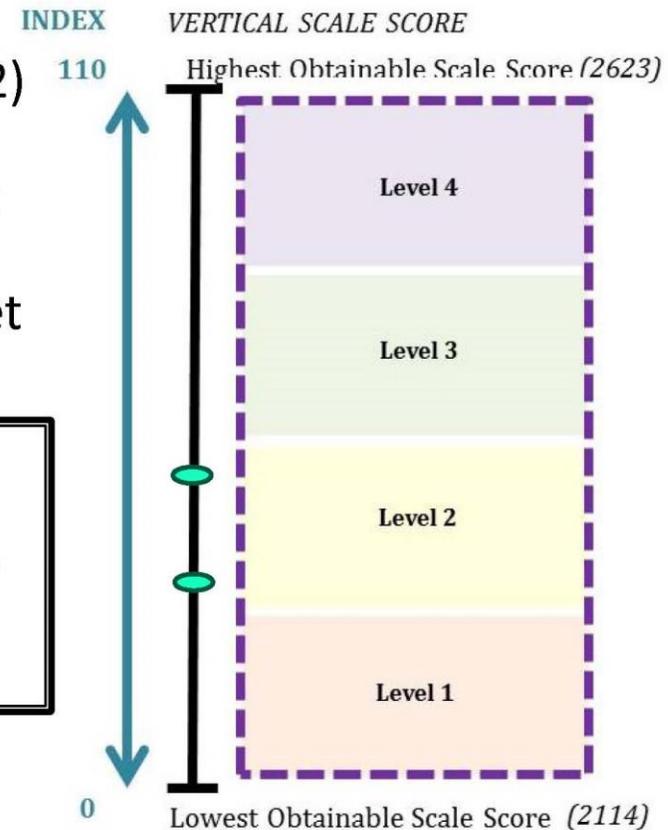
Grade 11 SAT Achievement Data
Indicator #1 – SPI/DPI

SCHOOL	GRADE	LAST NAME	FIRST NAME	SASID	HIGH NEEDS	SPED	ELL	LUNCH	504	ELA IPI 18-19	MATH IPI 18-19	SAT EBRW SCALE SPRING 18-19	SAT EBRW LEVEL SPRING 18-19	SAT MATH SCALE SPRING 18-19	SAT MATH LEVEL SPRING 18-19
	11							P		58.7	51.3	520	3	480	2
	11				Y			F		56.8	56.8	510	3	510	2
	11				Y			R		64.2	71.5	550	3	590	3
	11				Y			F		51.3	55.0	480	3	500	2
	11				Y			F		49.5	38.5	470	2	410	1
	11				Y			F		73.3	67.8	600	3	570	3
	11							P		47.7	38.5	460	2	410	1
	11				Y			F		55.0	60.5	500	3	530	3
	11				Y			F		49.5	47.7	470	2	460	2
	11				Y	Y		F		16.5	14.7	290	1	280	1
	11				Y			F		56.8	51.3	510	3	480	2
	11				Y	Y		P		34.8	29.3	390	1	360	1
	11				Y			F		40.3	42.2	420	2	430	2
	11				Y			F		78.8	49.5	630	4	470	2
	11				Y		Y	F		20.2	34.8	310	1	390	1
	11				Y	Y		P		73.3	78.2				
	11							P		69.7	47.7	580	3	460	2
	11							P		60.5	58.7	530	3	520	2
	11				Y			R		58.7	42.2	520	3	430	2
	11				Y	Y		F		29.3	20.2	360	1	310	1
	11				Y			F		49.5	56.8	470	2	510	2
	11							P		56.8	56.8	510	3	510	2
	11				Y			R		53.2	27.5	490	3	350	1
	11				Y			F		38.5	38.5	410	1	410	1
	11				Y			F		49.5	47.7	470	2	460	2

STUDENT ACHIEVEMENT

- Aggregate all individual student data (IPI) to school and district level (SPI/DPI)
- ESSA target determination

Preliminary SPI (Indicator #1)
Sorted by Change from Prior Year

School	ELA										School	MATH									
	14-15	15-16	16-17	17-18	18-19	Valid N	Five Year SPI Average	SPI Change from Prior Year	SPI Change from First Year	18-19 SPI ESSA Target Met?		14-15	15-16	16-17	17-18	18-19	Valid N	Five Year SPI Average	Change from Prior Year	Change from First Year	18-19 SPI ESSA Target Met?
	50.0	53.3	51.3	53.4	183	52.0		2.1	3.4	NO			44.0	49.7	48.0	49.3	183	47.8		1.3	5.3	NO
	53.5	54.3	53.4	53.9	55.5	9087	54.1	1.6	2.0	NO		44.2	46.2	46.9	47.8	48.5	9072	46.7	0.7	4.3	NO
	41.8	43.9	41.5	38.5	39.4	218	41.0	0.9	-2.4	NO		50.9	47.7	48.6	46.3	45.0	106	47.7	-1.3	-5.9	NO
	51.0	45.2	43.8	42.9	42.2	268	45.0	-0.7	-8.8	NO		37.7	39.4	38.8	39.2	36.9	268	38.4	-2.3	-0.8	NO
	71.4	54.1	55.1	53.2	52.5	106	57.3	-0.7	-18.9	NO		31.7	38.5	36.6	35.8	33.4	218	35.2	-2.4	1.7	NO
	46.6	42.7	41.0	39.3	38.3	198	41.6	-1.0	-8.3	NO		30.9	36.5	35.3	35.8	32.4	198	34.2	-3.4	1.5	NO

STUDENT GROWTH

- Other state-wide assessments use student growth in addition to student achievement for accountability, however, because only grade 11 students take the CT-SAT annually, no growth calculations are currently included for accountability purposes

- The College Board's Student-Level Growth Estimates for the SAT Suite of Assessments allowed us the opportunity to mirror other state-wide assessments that measure student growth, that our schools are currently familiar with (Smarter Balanced and LAS Links)

STUDENT GROWTH

- Student-level growth estimates were received from the College Board in December 2018
  - PSAT/SAT growth targets are based on the 50th percentile
    - Smarter Balanced growth targets are based on the 60th percentile
    - LAS Links growth targets are based on the 60th percentile for oral and the 70th percentile for literacy (with two grade level exceptions)

- The student-level growth estimates were first used retroactively to create growth targets for fall 2018 testing and then for the upcoming spring 2019 CT-SAT and fall 2019 PSAT 8/9, PSAT/NMSQT, and SAT

- 2019 CT-SAT growth targets were compared to actual 2019 CT-SAT results

STUDENT GROWTH

- I determined:
  - How much of an increase each student was expected to obtain in both Evidence-Based Reading and Writing (EBRW) and Math – target growth
  - If each student met the target growth or not
  - How much each student met or missed the target growth by
  - What each student's percentage of target achieved (PTA) was
    - In other state-wide assessments, Connecticut uses the percentage of target achieved (PTA) as an accountability indicator
    - Students are expected to achieve 100% of their target growth annually
    - Range is 0%-110%
  - What each student's **_UNADJUSTED_** percentage of target achieved (PTA) was
    - What the student TRULY earned
    - 0% and 110% caps are lifted
    - Range is unlimited - negative numbers and numbers beyond 110%

SAMPLE CALCULATION

40%+100%+0%+110%=250%/4=62.5%

Percentage of Target Achieved (PTA)
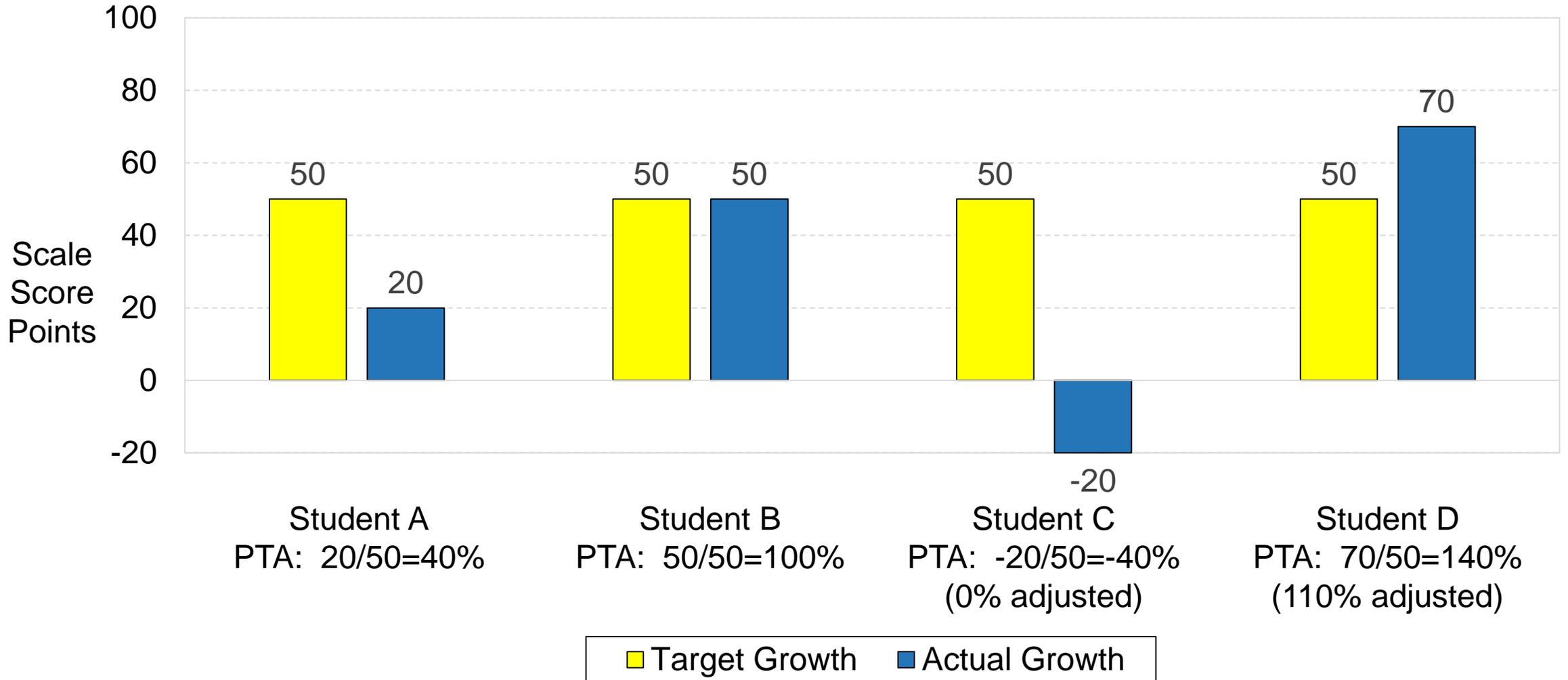
INDIVIDUAL STUDENT DATA – EBRW FALL 17-18 TO FALL 18-19

	A	B	C	D	E	F	G	H	I	J	K
	GRADE 18-19	PSAT EBRW FALL 17-18	PSAT/ SAT EBRW FALL 18-19	PSAT/ SAT EBRW ACTUAL GROWTH FALL 18-19	PSAT/ SAT EBRW EXPECTED SCORE FALL 18-19	PSAT/ SAT EBRW TARGET GROWTH FALL 18-19	PSAT/ SAT EBRW TARGET MET FALL 18-19	PSAT/ SAT EBRW TARGET GROWTH DIFF FALL 18-19	PSAT/ SAT EBRW UNADJ PTA FALL 18-19	PSAT/ SAT EBRW ADJ PTA FALL 18-19	PSAT/ SAT EBRW EXPECTED SCORE FALL 19-20
	9	350	420	70	380	30	Yes	40	233.3	110.0	450
	9	320	340	20	350	30	No	-10	66.7	66.7	370
	10	580	560	-20	610	30	No	-50	-66.7	0.0	590
	10	430	490	60	450	20	Yes	40	300.0	110.0	520
	11	400	470	70	430	30	Yes	40	233.3	110.0	510
	11	380	390	10	420	40	No	-30	25.0	25.0	450
	12	510	580	70	540	30	Yes	40	233.3	110.0	
	12	370	490	120	430	60	Yes	60	200.0	110.0	

Actual Scores   Expected Scores   Growth Data

INDIVIDUAL STUDENT DATA – MATH
FALL 17-18 TO FALL 18-19

A	B	C	D	E	F	G	H	I	J	K
GRADE 18-19	PSAT MATH FALL 17-18	PSAT/ SAT MATH FALL 18-19	PSAT/ SAT MATH ACTUAL GROWTH FALL 18-19	PSAT/ SAT MATH EXPECTED SCORE FALL 18-19	PSAT/ SAT MATH TARGET GROWTH FALL 18-19	PSAT/ SAT MATH TARGET MET FALL 18-19	PSAT/ SAT MATH TARGET GROWTH DIFF FALL 18-19	PSAT/ SAT MATH UNADJ PTA FALL 18-19	PSAT/ SAT MATH ADJ PTA FALL 18-19	PSAT/ SAT MATH EXPECTED SCORE FALL 19-20
9	280	360	80	360	80	Yes	0	100.0	100.0	400
9	280	350	70	360	80	No	-10	87.5	87.5	390
10	420	410	-10	440	20	No	-30	-50.0	0.0	440
10	480	420	-60	500	20	No	-80	-300.0	0.0	450
11	330	290	-40	400	70	No	-110	-57.1	0.0	400
11	390	430	40	430	40	Yes	0	100.0	100.0	470
12	430	520	90	470	40	Yes	50	225.0	110.0	
12	460	360	-100	490	30	No	-130	-333.3	0.0	

■ Actual Scores ■ Expected Scores ■ Growth Data

INDIVIDUAL STUDENT DATA – EBRW FALL 18-19 TO SPRING 18-19 (CT-SAT)

A	B	C	D	E	F	G	H	I	J	K
GRADE 18-19	PSAT EBRW FALL 18-19	SAT EBRW SPRING 18-19	SAT EBRW ACTUAL GROWTH SPRING 18-19	SAT EBRW EXPECTED SCORE SPRING 18-19	SAT EBRW TARGET GROWTH SPRING 18-19	SAT EBRW TARGET MET SPRING 18-19	SAT EBRW TARGET GROWTH DIFF SPRING 18-19	SAT EBRW UNADJ PTA SPRING 18-19	SAT EBRW ADJ PTA SPRING 18-19	SAT EBRW EXPECTED SCORE FALL 19-20
11	530	580	50	550	20	Yes	30	250.0	110.0	590
11	510	530	20	530	20	Yes	0	100.0	100.0	540
11	490	520	30	510	20	Yes	10	150.0	110.0	530
11	340	360	20	400	60	No	-40	33.3	33.3	410
11	490	470	-20	510	20	No	-40	-100.0	0.0	490
11	530	510	-20	550	20	No	-40	-100.0	0.0	520
11	540	490	-50	560	20	No	-70	-250.0	0.0	510
11	530	410	-120	550	20	No	-140	-600.0	0.0	440

■ Actual Scores ■ Expected Scores ■ Growth Data

INDIVIDUAL STUDENT DATA – MATH FALL 18-19 TO SPRING 18-19 (CT-SAT)

	A	B	C	D	E	F	G	H	I	J	K
	GRADE 18-19	PSAT MATH FALL 18-19	SAT MATH SPRING 18-19	SAT MATH ACTUAL GROWTH SPRING 18-19	SAT MATH EXPECTED SCORE SPRING 18-19	SAT MATH TARGET GROWTH SPRING 18-19	SAT MATH TARGET MET SPRING 18-19	SAT MATH TARGET GROWTH DIFF SPRING 18-19	SAT MATH UNADJ PTA SPRING 18-19	SAT MATH ADJ PTA SPRING 18-19	SAT MATH EXPECTED SCORE FALL 19-20
	11	390	460	70	420	30	Yes	40	233.3	110.0	470
	11	440	520	80	460	20	Yes	60	400.0	110.0	530
	11	440	430	-10	460	20	No	-30	-50.0	0.0	450
	11	340	310	-30	390	50	No	-80	-60.0	0.0	380
	11	430	510	80	460	30	Yes	50	266.7	110.0	520
	11	490	510	20	510	20	Yes	0	100.0	100.0	520
	11	340	350	10	390	50	No	-40	20.0	20.0	400
	11	410	410	0	440	30	No	-30	0.0	0.0	440

Actual Scores · Expected Scores · Growth Data

STUDENT GROWTH

- Individual student data was aggregated in the same manner as Smarter Balanced and LAS Links growth metrics (data shown below is for fall PSAT to spring CT-SAT)

- Range is 0%-110%

School	Subject	Number of Matched Students	Growth Rate	Average Percentage of Target Achieved (PTA)
			2018-2019	
	ELA	178	46.6%	57.7%
	ELA	103	44.7%	55.6%
	ELA	218	36.7%	54.2%
DISTRICT	*ELA*	*869*	*35.4%*	*52.1%*
	ELA	177	28.8%	51.6%
	ELA	177	26.0%	43.3%

School	Subject	Number of Matched Students	Growth Rate	Average Percentage of Target Achieved (PTA)
			2018-2019	
	Math	103	43.7%	58.6%
	Math	178	47.8%	57.1%
	Math	216	38.4%	52.8%
DISTRICT	*Math*	*865*	*35.6%*	*49.6%*
	Math	177	26.6%	42.0%
	Math	175	25.1%	39.7%

STUDENT GROWTH

- Annual targets were determined for each school and the district overall, similar to ESSA growth targets

CT-SAT ELA Percentage of Target Achieved

52.1%	(District Actual, 2018-2019)
55.8%	(District Target, 2019-2020)
59.5%	(District Target, 2020-2021)
63.2%	(District Target, 2021-2022)
66.8%	(District Target, 2022-2023)

Legend: District Target, District Actual
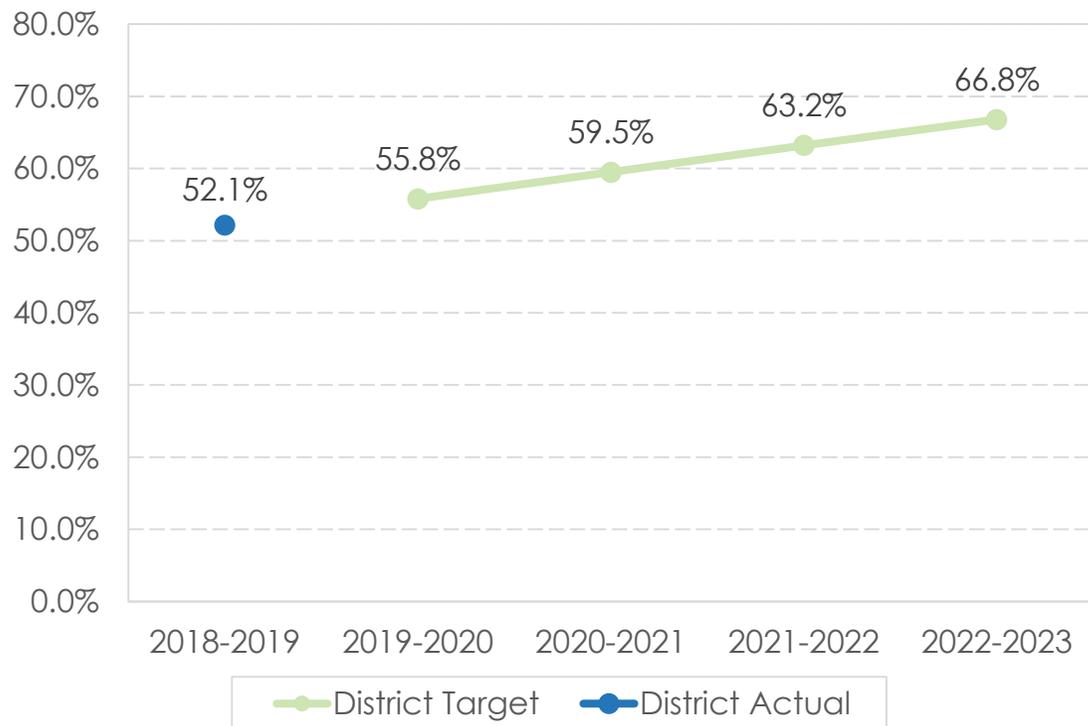
CT-SAT Math Percentage of Target Achieved

49.6%	(District Actual, 2018-2019)
53.5%	(District Target, 2019-2020)
57.4%	(District Target, 2020-2021)
61.2%	(District Target, 2021-2022)
65.1%	(District Target, 2022-2023)

Legend: District Target, District Actual
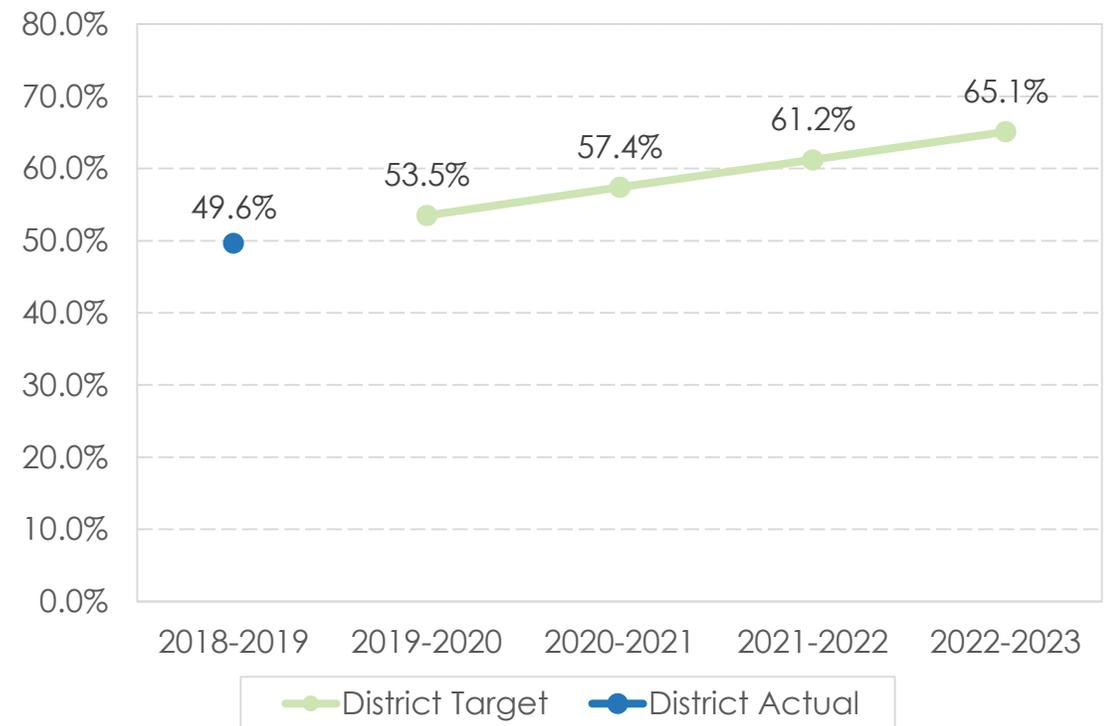
STUDENT GROWTH

- **_UNADJUSTED_** PTA - EBRW
- True performance
- Range is unlimited

School	Subject	2018-2019		
		Number of Matched Students	Growth Rate	Average Percentage of Target Achieved (PTA)
	ELA	178	46.6%	57.7%
	ELA	103	44.7%	55.6%
	ELA	218	36.7%	54.2%
DISTRICT	*ELA*	*869*	*35.4%*	*52.1%*
	ELA	177	28.8%	51.6%
	ELA	177	26.0%	43.3%

School	Subject	2018-2019	
		Number of Matched Students	Average UNADJ Percentage of Target Achieved (PTA)
	ELA	178	61.4%
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	ELA	218	42.1%
DISTRICT	*ELA*	*869*	*43.1%*
	ELA	177	53.6%
	ELA	177	25.6%

STUDENT GROWTH

- **_UNADJUSTED_** PTA - Math
- True performance
- Range is unlimited

School	Subject	2018-2019		
		Number of Matched Students	Growth Rate	Average Percentage of Target Achieved (PTA)
	Math	103	43.7%	58.6%
	Math	178	47.8%	57.1%
	Math	216	38.4%	52.8%
DISTRICT	**_Math_**	**_865_**	**_35.6%_**	**_49.6%_**
	Math	177	26.6%	42.0%
	Math	175	25.1%	39.7%

School	Subject	2018-2019	
		Number of Matched Students	Average UNADJ Percentage of Target Achieved (PTA)
	Math	103	73.7%
	Math	178	62.7%
	Math	216	35.3%
DISTRICT	**_Math_**	**_865_**	**_30.2%_**
	Math	177	3.1%
	Math	175	-8.2%

STUDENT GROWTH

- The student-level growth estimates allowed us to make informed decisions on students that may need a little extra instruction to meet the benchmark by the time they participate in SAT
  - Developed the 530 club at one school for mathematics
    - Forecasted students that would be somewhat below the benchmark based on the student-level growth estimates and how much of the target students are achieving

NEXT STEPS

- Khan Academy

- Incorporate grade 9 and 10 spring administration for intermittent data (pre/post)

- Monitor and check for increases in the percentage of target achieved for individual students and at the school/district level in future years

- Analyze the impact of mobility and suspensions on PSAT and SAT achievement and growth