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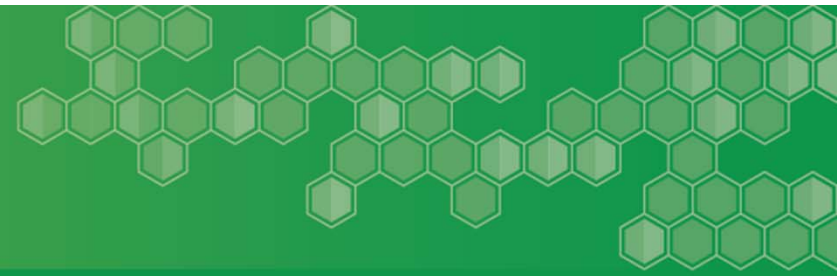
**COLORADO**  
Department of Education

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# Technical Advisory Panel Meeting

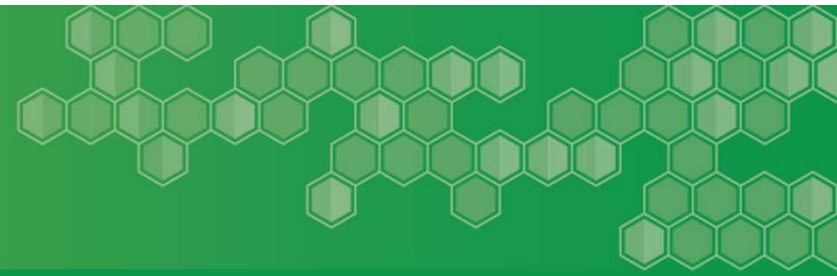
March 30, 2023

# Welcome & Introductions



- **Welcome!**
  - The purpose of the TAP is to provide non-binding technical recommendations to CDE regarding the Colorado Growth Model, state accountability, and other topics as needed.
- **Meeting Logistics:**
  - Non-members, please add your Name/Affiliation to the chat box.
  - Everyone please mute your sound.
  - We ask all non-TAP members to hold any comments until the end of the meeting. We do this to ensure we have sufficient time to address all meeting agenda items.

# Agenda for Today



- **Welcome**
- **New PWR Sub Indicators – Marie Huchton**
  - Feedback Item
- **High School On-Track Growth– Marie Huchton**
  - Feedback Item
- **Wrap-Up**

# New Postsecondary & Workforce Readiness Sub-Indicators

Marie Huchton

# Two New PWR Sub-Indicators

- **SB17-272- Higher Bar ELA & Math**
  - Higher achievement levels in ELA and Math, as defined by the State Board, on certain graduation guidelines measures
    - (Accuplacer, ACT, ACT Work Keys, AP, ASVAB, Concurrent Enrollment, IB, SAT).
- **HB18-1019- Higher Bar Non-ELA/Math**
  - Successful completion of AP, IB, and/or Concurrent Enrollment for non-ELA and non-Math courses.
    - AP examination score of 3 or higher
    - IB examination score of 4 or higher
    - CE course grade of B or higher

# PWR Sub-Indicator Calculation Methodology

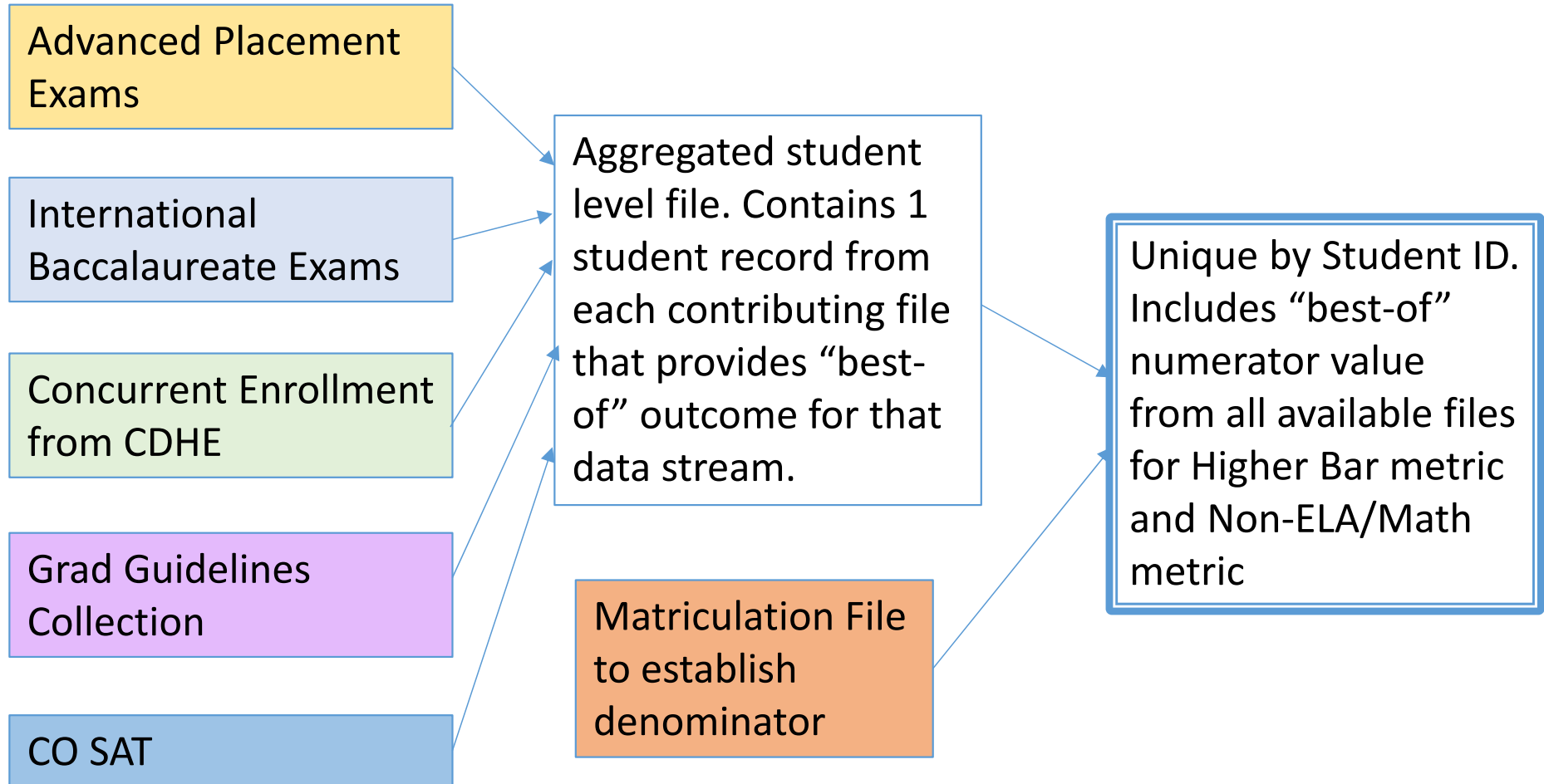
At the February 2021 meeting, TAP recommended using the same calculation methodology for both sub-indicators:

unduplicated count of graduates that have met at least one measure

graduates identified by the school / district

- ✓ Graduation Guidelines reporting is required for graduates
- ✓ Consistency in the denominator between the two sub-indicators
- ✓ Counting at graduation allows for a complete dataset across the state
  - About 85% of IB examinations are taken in the final year of high school
  - About 65% of AP examinations are taken in the final two years of high school
- ✓ A graduate is counted in the numerator if they met the requirement at any time during grades 9-12.

# Data Build for Higher Bar and Non-ELA/Math Metrics



# Unique by SASID counts for 2021 graduating cohort

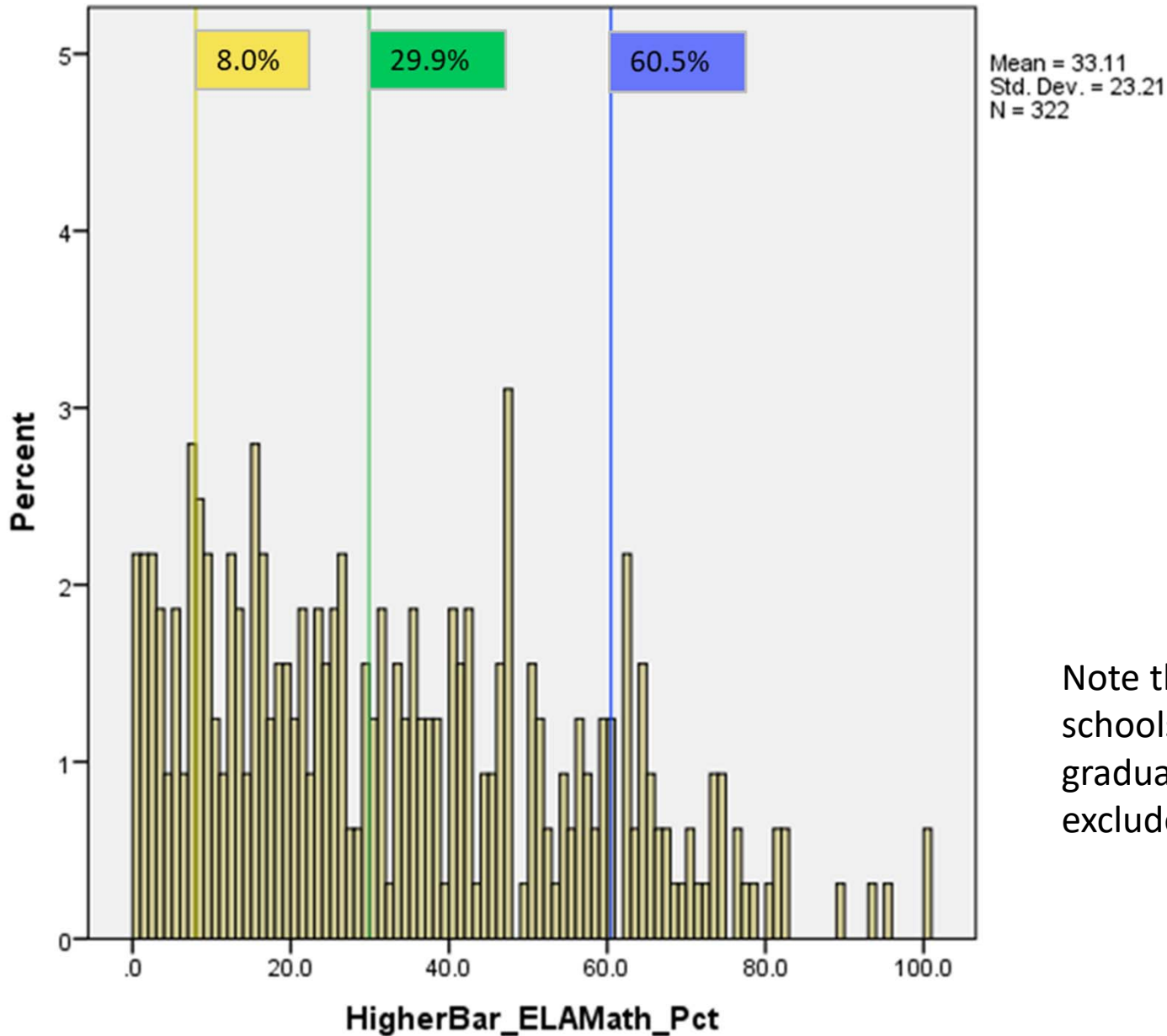
- Final data file contains only 1 record per SASID, the “best-of” outcome across all data sources.
- Calculate final Higher Bar for ELA/Math metric where both ELA and Math variables indicate student met higher bar.

	Total Student Count	ELA		Math		Both ELA & Math		Non-ELA/Math	
		# Meeting HB	% Meeting HB	# Meeting HB	% Meeting HB	# Meeting HB	% Meeting HB	# Meeting HB	% Meeting HB
<b>2021</b>	60,343	27,746	46.0%	22,366	37.1%	19,627	32.5%	26,693	44.2%

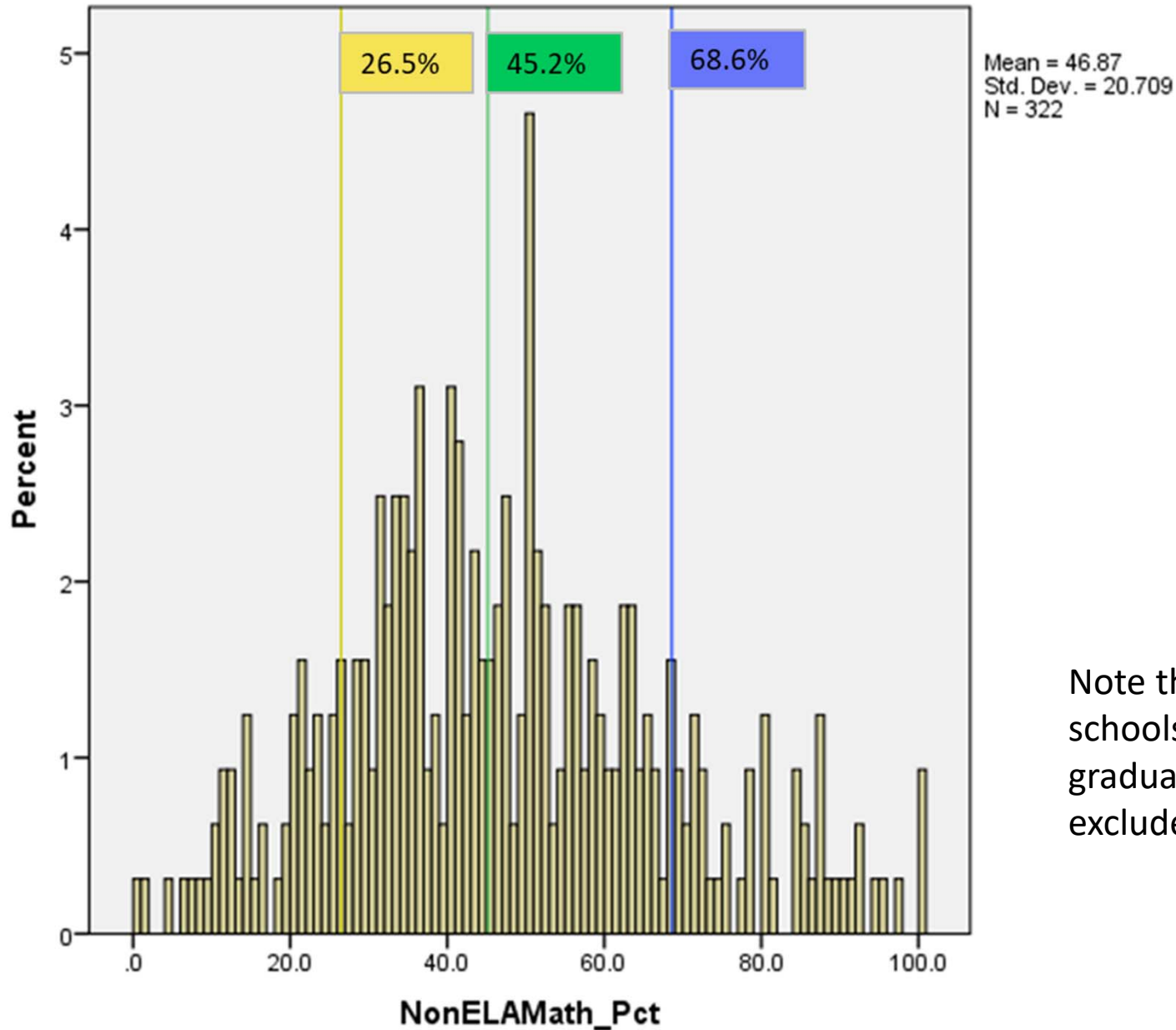




# 2021 Distribution of Schools by Percent of Students Meeting ELA & Math Higher Bar



# 2021 Distribution of Schools by Percent of Students Meeting Non-ELA/Math Higher Bar



Note that AECs and schools with less than 16 graduates in 2021 are excluded

# Potential PWR Weighting Scenarios



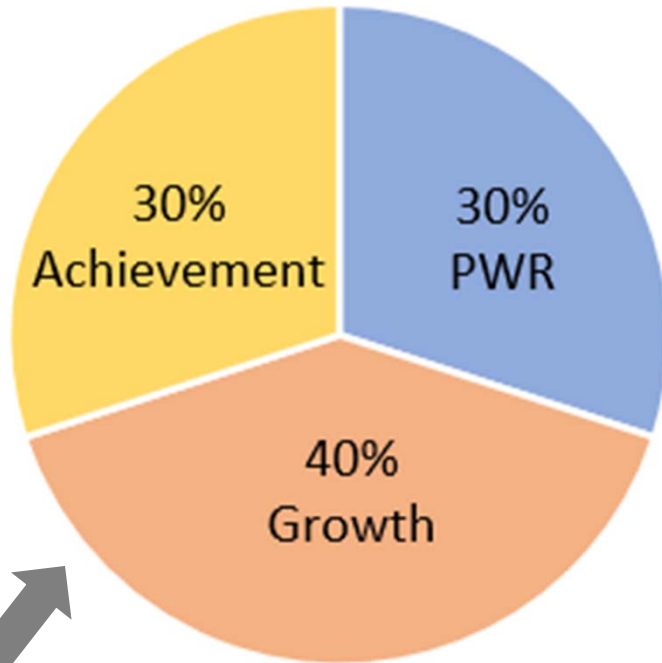
- Investigated 3 potential scenarios for incorporating the new PWR metrics- 1 point, 2 points, or 4 points for All Students Group and no points for disaggregated groups

	All Students		Disaggregated	
SAT EBRW	4		4	
SAT Math	4		4	
Dropout Rate	8		8	
Matriculation Rate	4		--	
Graduation Rate	8		8	
	Current	1 Point	2 Points	4 Points
Higher Bar ELA & Math	--	1	2	4
Higher Bar Non-ELA/Math	--	1	2	4
<b>Total PWR Points</b>	<b>52</b>	<b>54</b>	<b>56</b>	<b>60</b>



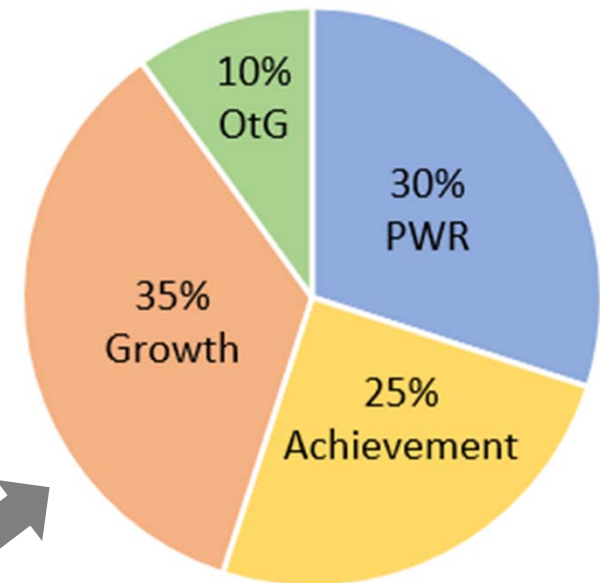
# High School & District Indicator Weightings

## High School & District Indicator Weighting



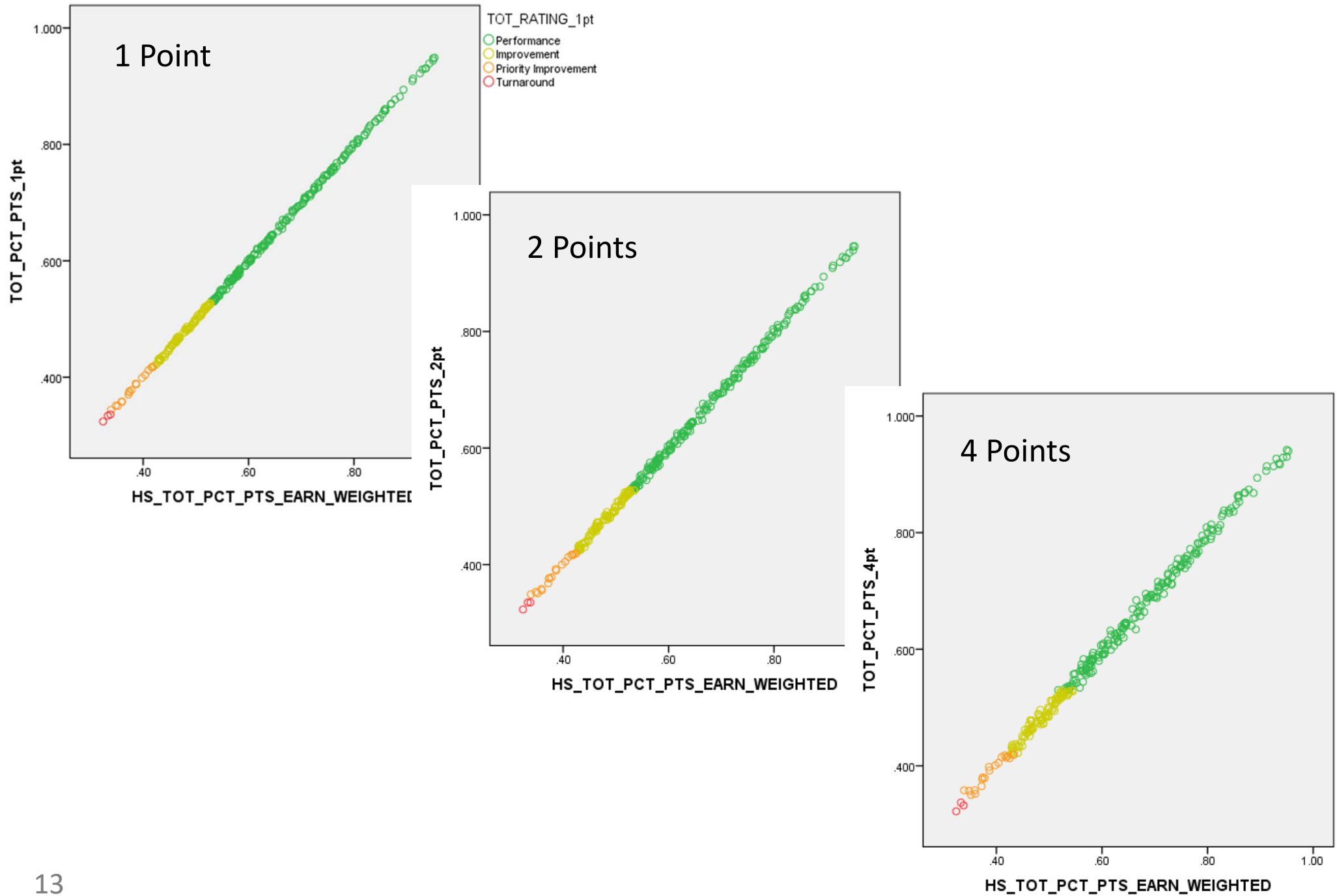
Weightings used in the current analyses.

## Potential High School & District Indicator Weighting



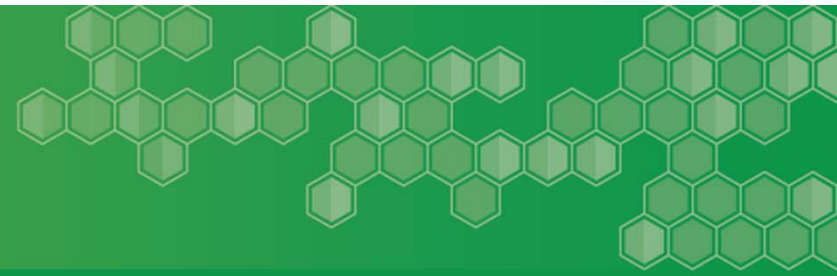
Don't forget, something like this may be coming in future years.

# School Level Impact Data by Potential Weighting Scenario



# School Level Impact Data by Potential Weighting Scenario

		Original 2022 High School Rating					Change in Ratings	
		Performance	Improvement	Priority Improvement	Turnaround		Total Count	Percent
Weighted Scenario Rating-1 point	Performance	192	0	0	0	same	289	99.7%
	Improvement	0	79	0	0	up 1+	1	0.3%
	Priority Improvement	0	0	15	1	down 1+	0	0.0%
	Turnaround	0	0	0	3			
Weighted Scenario Rating-2 points	Performance	190	0	0	0	same	285	98.3%
	Improvement	2	77	0	0	up 1+	1	0.3%
	Priority Improvement	0	2	15	1	down 1+	4	1.4%
	Turnaround	0	0	0	3			
Weighted Scenario Rating-4 points	Performance	186	1	0	0	same	278	95.9%
	Improvement	6	74	0	0	up 1+	2	0.7%
	Priority Improvement	0	4	15	1	down 1+	10	3.4%
	Turnaround	0	0	0	3			



- Does the TAP recommend incorporating the proposed Higher Bar metrics for informational purposes in 2023 and for points in 2024?
- Which weighting scenario does the TAP recommend?

# Reporting New PWR Indicators



- What Higher Bar information should be included on the frameworks vs. other reports?

Matriculation Rate	All Students	150	*	22.0%	*	1.00/4	Does Not Meet
	2-Year Higher Education Institution	*	*	6.7%	*	0.00/0	-
	4-Year Higher Education Institution	*	*	11.3%	*	0.00/0	-
	Career & Technical Education	*	*	4.0%	*	0.00/0	-
	Military Enlistment	*	*	0.7%	*	0.00/0	-

- Should potentially duplicate counts for each data source be reported?

- If so, where?
- By Disagg group?

		Count	Percent	Rating?
Higher Bar ELA & Math	Unique Students			
	Accuplacer			
	ACT			
	ACT WorkKeys			
	AP			
	ASVAB			
	CE			
	IB			
	SAT			
Higher Bar Non- ELA/Math	Unique Students			
	AP			
	CE			
	IB			





# On-Track Growth Metrics

Marie Huchton



# On-Track Growth (i.e. Growth-to-Standard) Requirement in SB18-1355

- Required performance indicator for inclusion in annually-determined school and district rating calculations: “Student academic growth to standards, based on students progress toward meeting the state standards... or for students who meet grade-level expectations on the state standards, progress toward higher levels of achievement, if available, as measure by the statewide assessments.” 22-11-204(1)(a)(III)
- Meaning, the growth to standard or on-track growth metric needs to measure a student’s progress towards meeting a target level of performance within a given timeframe. And this metric needs to update/incorporate observed progress over time.

# Re-capping 2019 Decisions for CMAS g3-8 ELA & Math On Track Growth Metric

- ✓ • **What target(s)?**
  - Should the target be set to “Meets State Expectations” or should interim targets be used for Catch Up trajectories?
  - **Increase 1 proficiency level each year**
- ✓ • **How long to achieve the target(s)?**
  - How many years should students be given to attain their target performance level?
  - **2 years (TAP recommended 3, but SBE voted to approve 2)**
- ✓ • **How does the target update over time?**
  - Does the clock start over every year or should this be a set trajectory where we track student progress from the first test result?
  - **Resets every year**
- ✓ • **Do we report students below proficient (Catch Up) and above proficient (Keep Up) separately? Or combined?**
  - **Report combined On-Track metric**

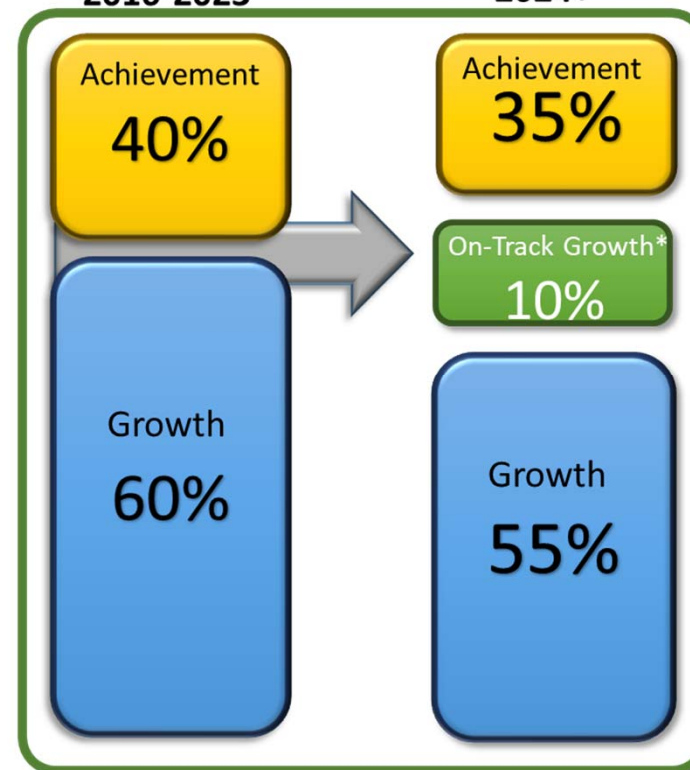
# Re-capping 2019 Decisions for Reporting On-Track Growth

- On-Track Growth will be added as a standalone indicator in the school and district performance frameworks.
- A minimum N of 20 will be applied for public reporting
- For points, report only the All Trajectories group- for both All Students and Disaggregated Groups.
- For informational purposes, report the Catch Up and Keep Up results. If either the Catch Up or Keep Up group does not meet minimum N, both categories are suppressed (location still TBD).
- Sub-indicator cuts set at the 15<sup>th</sup>-50<sup>th</sup>-85<sup>th</sup> percentiles of All Students distributions

# Re-capping 2019 Decisions for Rolling up On-Track Growth Sub-indicators

- Points Eligible for On-Track Growth will be the same as for the Achievement and Growth metrics. (All Disaggregated groups combined = ½ All Students group weight)
- ELP On-Track measures will move into On-Track Growth indicator.
- State board approved revised indicator weightings for elementary & middle schools (see graphic)
- Starting to look at high school P/SAT.

Elementary and Middle School Weighting  
2016-2023      2024+



\*Included as information item in 2023, no points assigned



# Decision Points for PSAT/SAT ELA/EBRW & Math On Track Growth Metric

- Today**
- **What target(s)?**
    - Should the target be set to “Meets State Expectations” or should interim targets be used for Catch Up trajectories?
- TBD**
- **How long to achieve the target(s)?**
    - How many years should students be given to attain their target performance level?
- TBD**
- **How does the target update over time?**
    - Does the clock start over every year or should this be a set trajectory where we track student progress from the first test result?
- TBD**
- **Do we report students below proficient (Catch Up) and above proficient (Keep Up) separately? Or combined?**

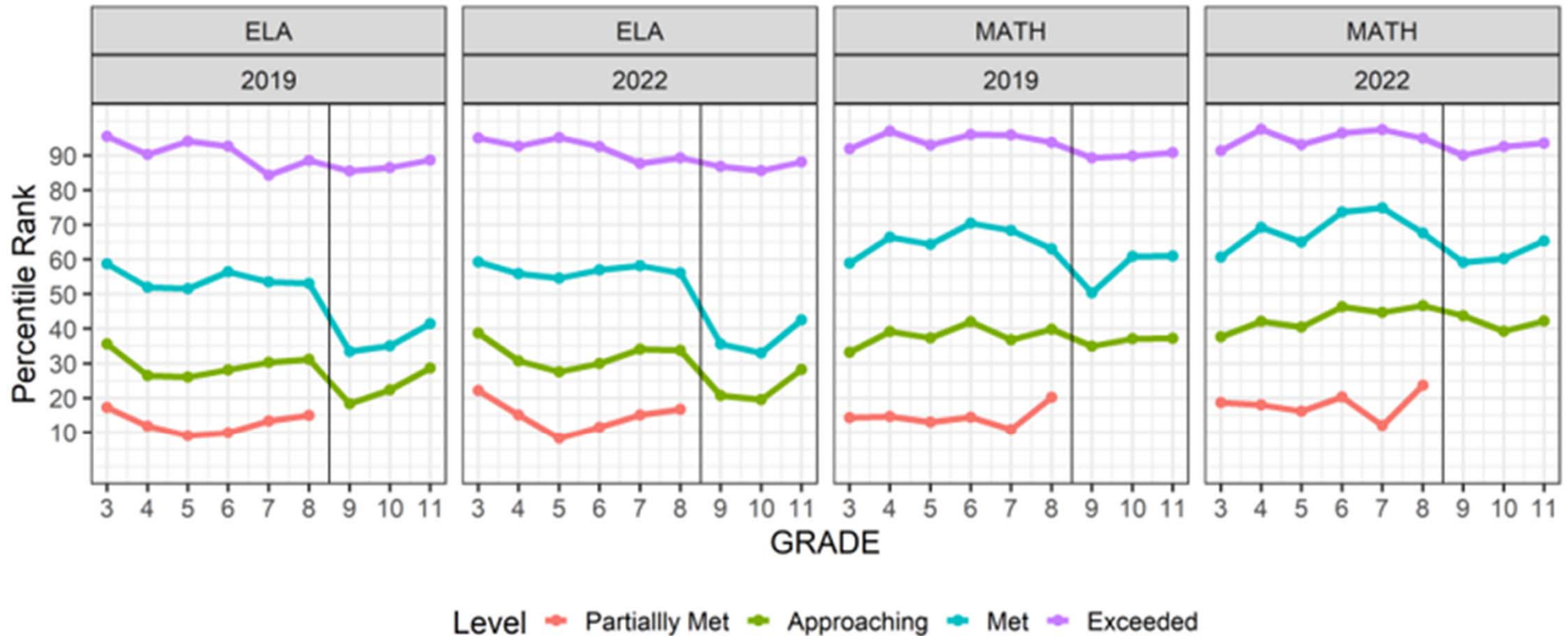


- **What target(s)?**
  - Should the target be set to “Meets State Expectations” or should interim targets be used for Catch Up trajectories?
  - **CMAS increases 1 proficiency level each year**

## Notes for PSAT/SAT Analysis

- PSAT/SAT has only 4 proficiency levels
- Lower participation than usual in 2021 (58% g8 Math, 73% g9 and 10 PSAT) with over-representation of higher achieving students
- We are in an extended protest period for the HS college entrance suite of assessments procurement. Therefore, we will focus solely on what can be done with high school growth for the fall of 2023.

# Cut-score percentiles by Grade and Year



- Thanks to our CADRE friends for this visual that shows the differences in normative expectations between the CMAS 3-8 and P/SAT 9-11 proficiency levels.
- What implications will this have for On Track Growth calcs?

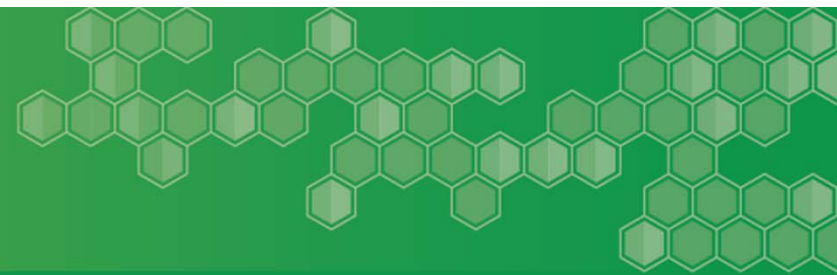


# PSAT/SAT On Track Growth Metric- Additional Analysis Notes



- Due to atypical high school participation 2021, this analysis uses pre-pandemic baseline-referenced methodology
- This means that current student progress and projections were baselined against a composite academic peer group with scores from 2017, 2018, and 2019
- Remember that 2018 was the first-year grade 9 PSAT was administered, so baseline projections for grade 9 Math are not available for this analysis
- Once spring 2023 results are available, we should be able to run cohort-referenced growth percentiles, projections and On Track Growth targets for all high school grades

# Reference- Growth Trajectories Over Time ELA/EBRW



## English Language Arts/Evidence-based Reading and Writing

	2017	2018	2019	2020	2021- cohort	2021- baseline	2022- cohort	2022- baseline	2023- coh & base
2021 - 2023 Potential Growth Calculations	-	-	-	-	-	-	CMAS g3	CMAS g3	CMAS g4
	-	-	-	-	CMAS g3	CMAS g3	CMAS g4	CMAS g4	CMAS g5
	-	-	-	-	Waived g4	Waived g4	CMAS g5	CMAS g5	CMAS g6
	-	-	CMAS g3	-	CMAS g5	CMAS g5	CMAS g6	CMAS g6	CMAS g7
	-	CMAS g3	CMAS g4	-	Waived g6	Waived g6	CMAS g7	CMAS g7	CMAS g8
	CMAS g3	CMAS g4	CMAS g5	-	CMAS g7	CMAS g7	CMAS g8	CMAS g8	PSAT g9
	CMAS g4	CMAS g5	CMAS g6	-	Waived g8	Waived g8	PSAT g9	PSAT g9	PSAT g10
	CMAS g5	CMAS g6	CMAS g7	-	PSAT g9	PSAT g9	PSAT g10	PSAT g10	SAT g11
	CMAS g6	CMAS g7	CMAS g8	-	PSAT g10	PSAT g10	SAT g11	SAT g11	-
	CMAS g7	CMAS g8	PSAT g9	-	SAT g11	SAT g11	-	-	-
	CMAS g8	PSAT g9	PSAT g10	-	-	-	-	-	-
CMAS g9	PSAT g10	SAT g11	-	-	-	-	-	-	

- Note- Growth is no longer calculated between CMAS grade 8 and PSAT EBRW grade 9 due to differences in the underlying test constructs.



# Reference- Growth Trajectories Over Time- Math



	2017	2018	2019	2020	2021- cohort	2021- baseline	2022- cohort	2022- baseline	2023- coh & base
2021 - 2023 Potential Growth Calculations	-	-	-	-	-	-	CMAS g3	CMAS g3	CMAS g4
	-	-	-	-	Waived g3	Waived g3	CMAS g4	CMAS g4	CMAS g5
	-	-	-	-	CMAS g4	CMAS g4	CMAS g5	CMAS g5	CMAS g6
	-	-	CMAS g3	-	Waived g5	Waived g5	CMAS g6	CMAS g6	CMAS g7
	-	CMAS g3	CMAS g4	-	CMAS g6	CMAS g6	CMAS g7	CMAS g7	CMAS g8
	CMAS g3	CMAS g4	CMAS g5	-	Waived g7	Waived g7	CMAS g8	CMAS g8	PSAT g9
	CMAS g4	CMAS g5	CMAS g6	-	CMAS g8	CMAS g8	PSAT g9	PSAT g9	PSAT g10
	CMAS g5	CMAS g6	CMAS g7	-	PSAT g9	PSAT g9	PSAT g10	PSAT g10	SAT g11
	CMAS g6	CMAS g7	CMAS g8	-	PSAT g10	PSAT g10	SAT g11	SAT g11	-
	CMAS g7	CMAS g8	PSAT g9	-	SAT g11	SAT g11	-	-	-
	CMAS g7	Algebra I g8							
	CMAS g7	Integrated 1 g8							
	CMAS g8 or Math Pathway	PSAT g9	PSAT g10	-	-	-	-	-	-
CMAS g9 or Math Pathway	PSAT g10	PSAT g11	-	-	-	-	-	-	

# PSAT/SAT Proficiency Level Movement from 2018 to 2019

				ACHIEVEMENT_LEVEL.2019								% Catching Up 1+ Levels	% Keeping Up L4+
				Level 1		Level 2		Level 3		Level 4			
				Count	%	Count	%	Count	%	Count	%		
g9 PSAT to g10 PSAT	EBRW	ACHIEVEMENT_LEVEL.2018	Level 1	7284	73.4%	1812	18.3%	819	8.3%	12	0.1%	26.6%	-
			Level 2	2907	37.0%	2499	31.8%	2448	31.1%	11	0.1%	31.3%	-
			Level 3	1459	4.9%	2779	9.4%	23411	79.4%	1832	6.2%	-	85.6%
			Level 4	12	0.1%	7	0.1%	2475	29.1%	5998	70.6%	-	99.8%
	MAT	ACHIEVEMENT_LEVEL.2018	Level 1	14282	81.9%	2838	16.3%	319	1.8%	9	0.1%	18.1%	-
			Level 2	3857	42.7%	4032	44.6%	1141	12.6%	11	0.1%	12.7%	-
			Level 3	1706	7.8%	6377	29.3%	12448	57.2%	1250	5.7%	-	62.9%
			Level 4	9	0.1%	62	0.8%	2786	37.2%	4638	61.9%	-	99.1%
				ACHIEVEMENT_LEVEL.2019								% Catching Up 1+ Levels	% Keeping Up L4+
Level 1		Level 2		Level 3		Level 4							
Count	%	Count	%	Count	%	Count	%						
g10 PSAT to g11 SAT	EBRW	ACHIEVEMENT_LEVEL.2018	Level 1	7460	81.5%	1076	11.8%	611	6.7%	7	0.1%	18.5%	-
			Level 2	4042	57.3%	1725	24.5%	1273	18.1%	8	0.1%	18.2%	-
			Level 3	2878	9.9%	3928	13.5%	21028	72.3%	1256	4.3%	-	76.6%
			Level 4	8	0.1%	5	0.1%	2493	33.4%	4958	66.4%	-	99.8%
	MAT	ACHIEVEMENT_LEVEL.2018	Level 1	14362	79.5%	3317	18.4%	378	2.1%	5	0.0%	20.5%	-
			Level 2	3464	34.0%	5004	49.1%	1725	16.9%	8	0.1%	17.0%	-
			Level 3	852	4.7%	4341	23.8%	12005	65.9%	1017	5.6%	-	71.5%
			Level 4	9	0.1%	24	0.4%	2179	34.7%	4066	64.8%	-	99.5%



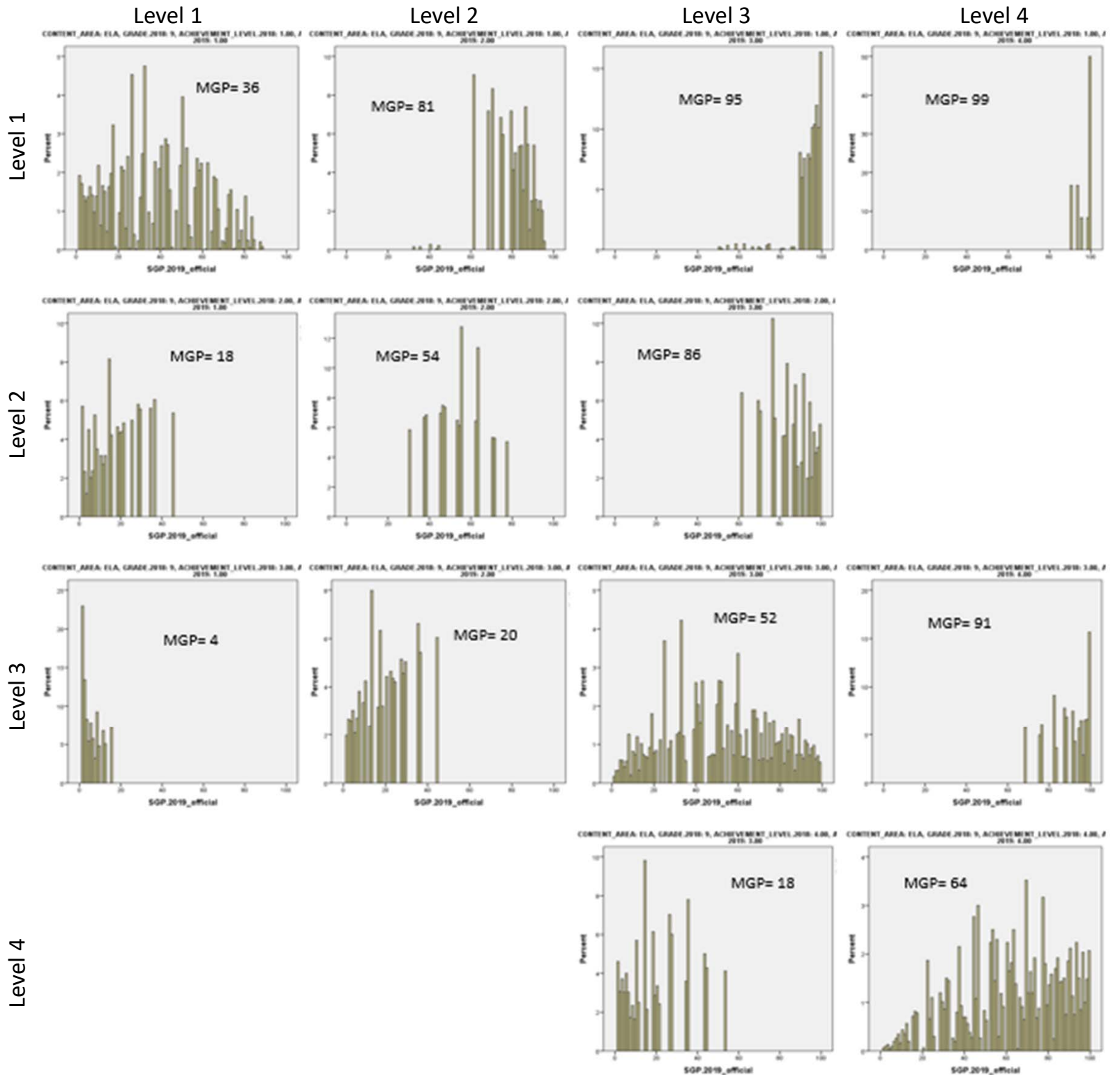
# PSAT/SAT Proficiency Level Movement from 2021 to 2022

				ACHIEVEMENT_LEVEL.2022								% Catching Up 1+ Levels	% Keeping Up L4+
				1		2		3		4			
				Count	%	Count	%	Count	%	Count	%		
g9 PSAT to g10 PSAT	EBRW	ACHIEVEMENT_LEVEL.2021	1	4117	63.6%	1473	22.7%	884	13.6%	3	0.0%	36.4%	-
			2	1988	33.1%	1867	31.1%	2143	35.7%	3	0.0%	35.8%	-
			3	1120	4.8%	2020	8.6%	18777	79.8%	1621	6.9%	-	86.7%
			4	8	0.1%	6	0.1%	1791	24.8%	5429	75.0%	-	99.8%
	MAT	ACHIEVEMENT_LEVEL.2021	1	11043	75.2%	2918	19.9%	720	4.9%	0	0.0%	24.8%	-
			2	3104	35.6%	3392	38.9%	2217	25.4%	7	0.1%	25.5%	-
			3	816	5.6%	2791	19.1%	10315	70.7%	666	4.6%	-	75.3%
			4	6	0.1%	15	0.3%	2110	40.1%	3130	59.5%	-	99.6%
				ACHIEVEMENT_LEVEL.2022								% Catching Up 1+ Levels	% Keeping Up L4+
				1		2		3		4			
				Count	%	Count	%	Count	%	Count	%		
g10 PSAT to g11 SAT	EBRW	ACHIEVEMENT_LEVEL.2021	1	5412	80.1%	938	13.9%	404	6.0%	5	0.1%	19.9%	-
			2	2736	52.9%	1449	28.0%	982	19.0%	4	0.1%	19.1%	-
			3	2046	8.5%	3414	14.1%	17522	72.5%	1191	4.9%	-	77.4%
			4	1	0.0%	6	0.1%	1891	28.5%	4739	71.4%	-	99.9%
	MAT	ACHIEVEMENT_LEVEL.2021	1	9709	77.5%	2429	19.4%	397	3.2%	0	0.0%	22.5%	-
			2	5117	42.7%	4666	38.9%	2203	18.4%	8	0.1%	18.4%	-
			3	873	6.0%	3048	21.0%	9747	67.2%	834	5.8%	-	73.0%
			4	1	0.0%	5	0.1%	1227	33.1%	2476	66.8%	-	99.8%



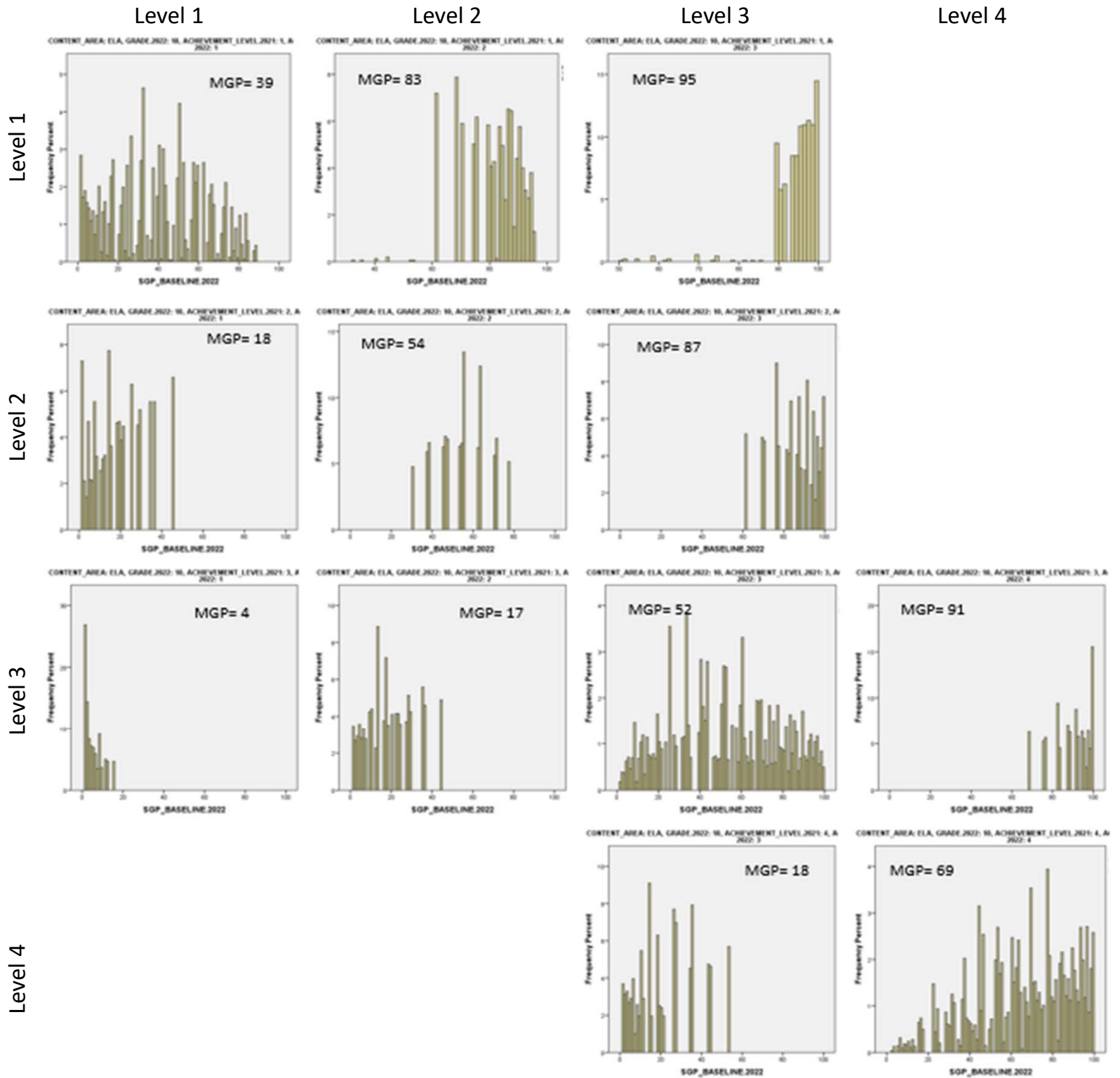
P/SAT  
Baseline SGP  
Distribution  
by  
Proficiency  
Levels in  
2018 and  
2019

ELA/EBRW  
Grade 9 to  
Grade 10



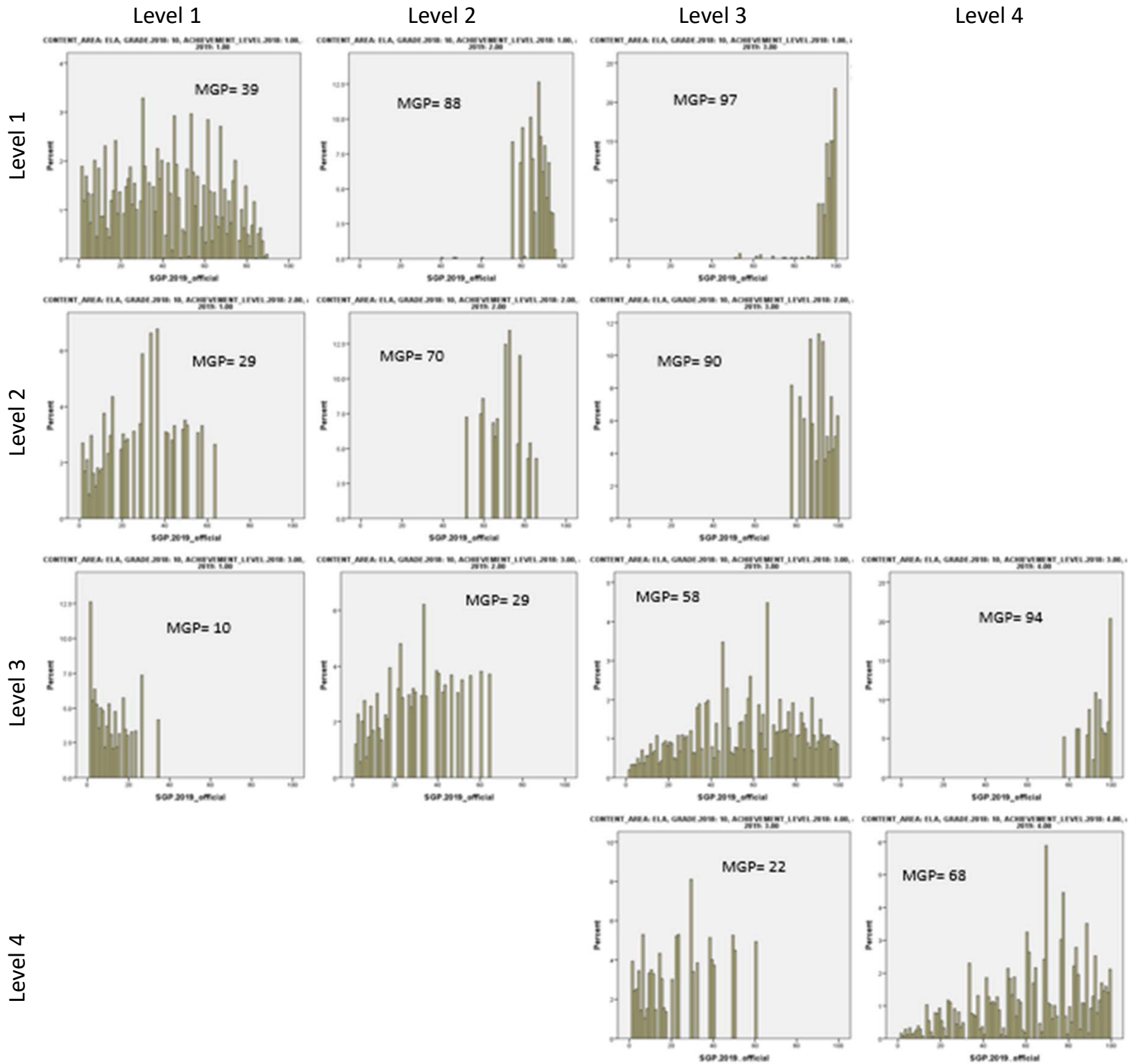
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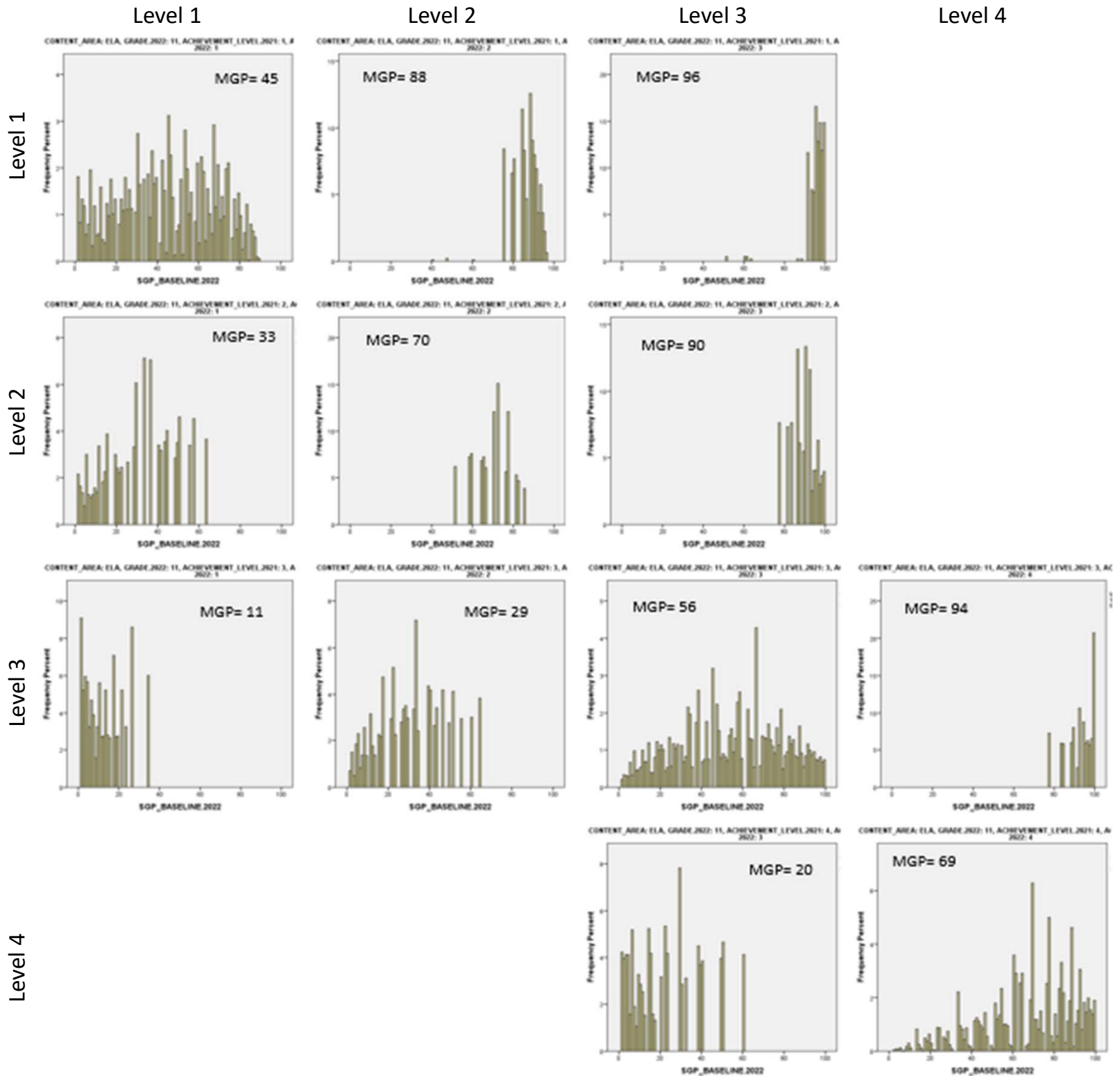
ELA/EBRW  
Grade 10 to  
Grade 11





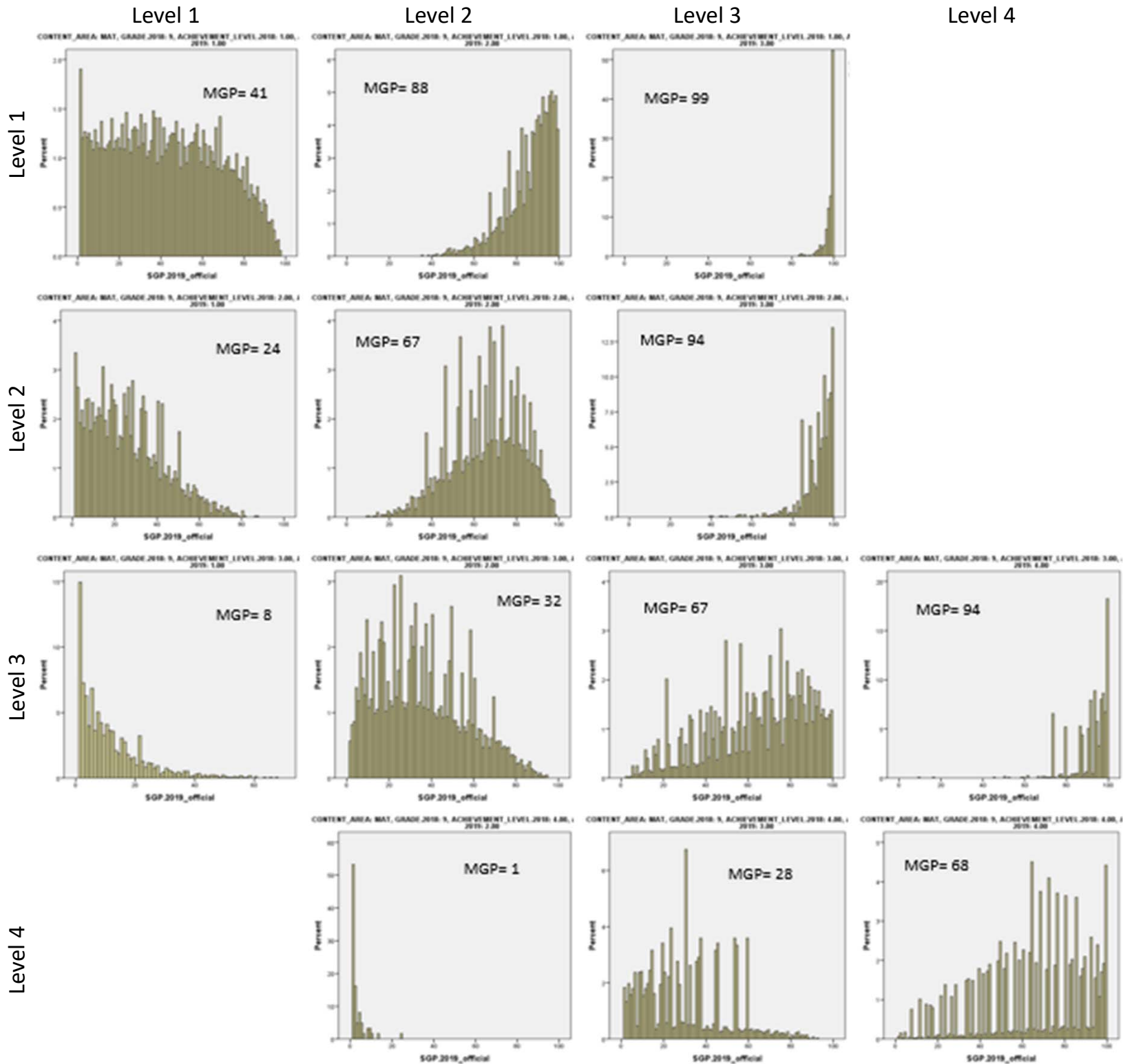
P/SAT  
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Grade 11



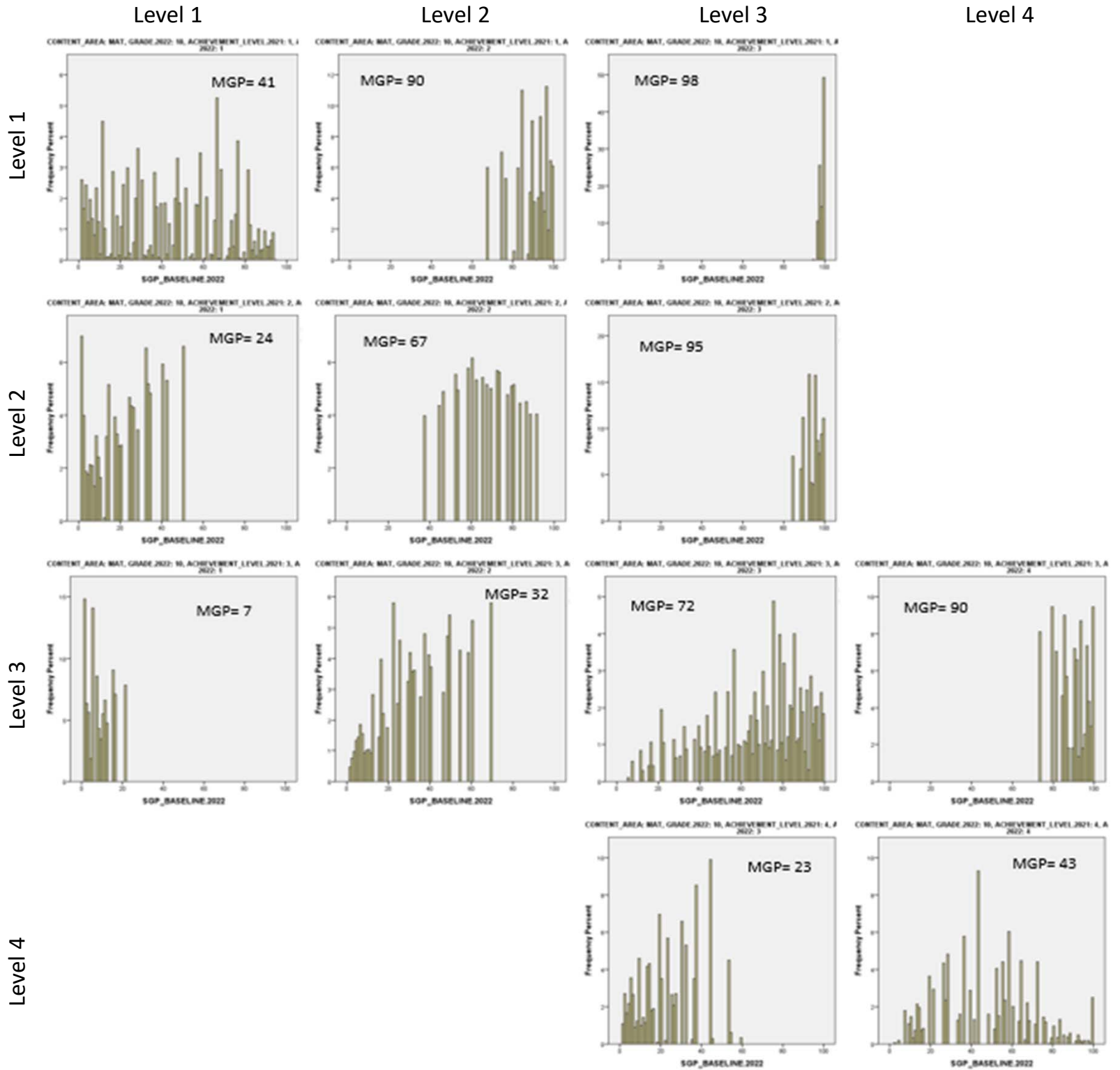
P/SAT  
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Distribution  
by  
Proficiency  
Levels in  
2018 and  
2019

Math  
Grade 9 to  
Grade 10



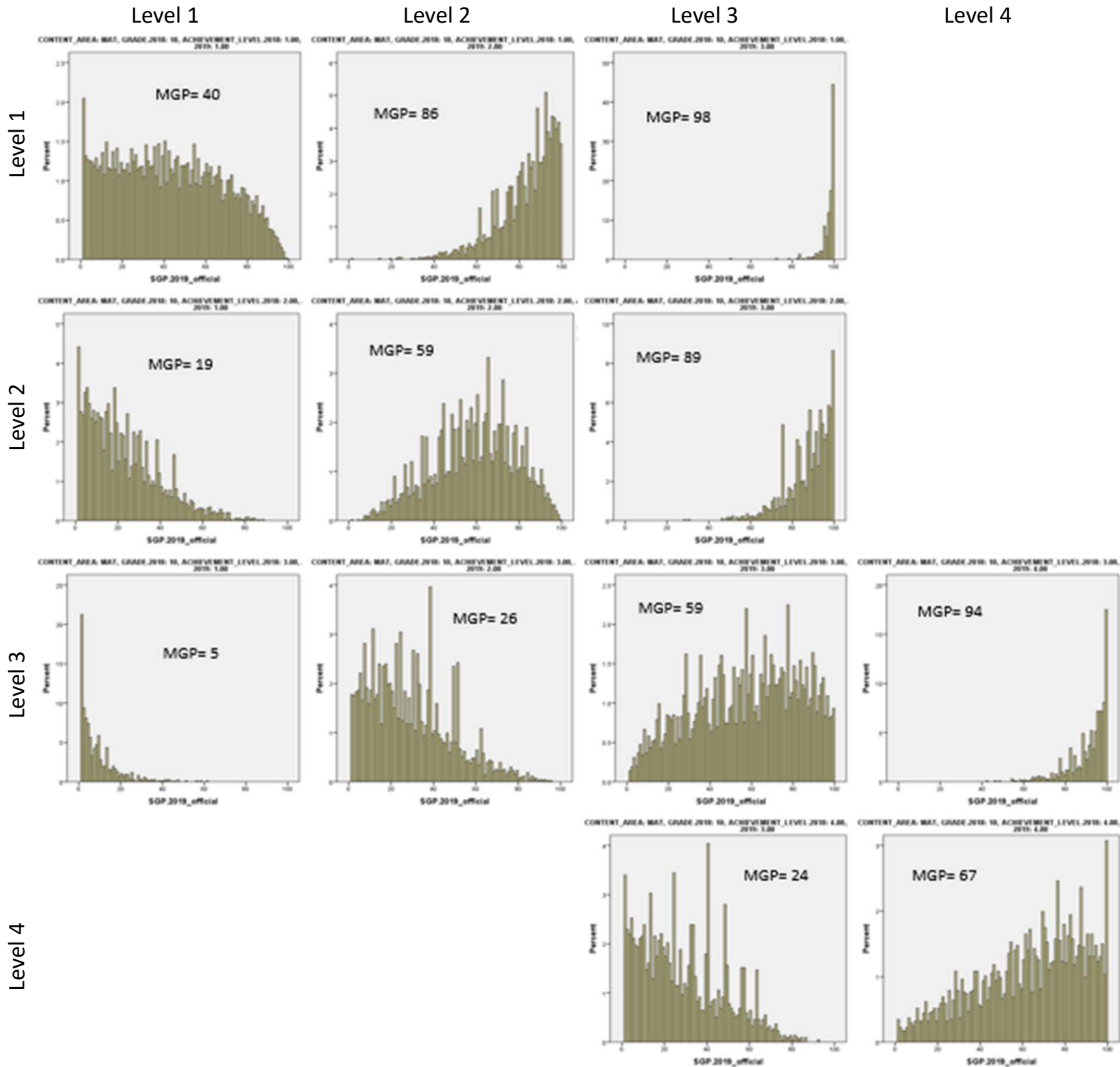
# P/SAT Baseline SGP Distribution by Proficiency Levels in 2021 and 2022

## Math Grade 9 to Grade 10



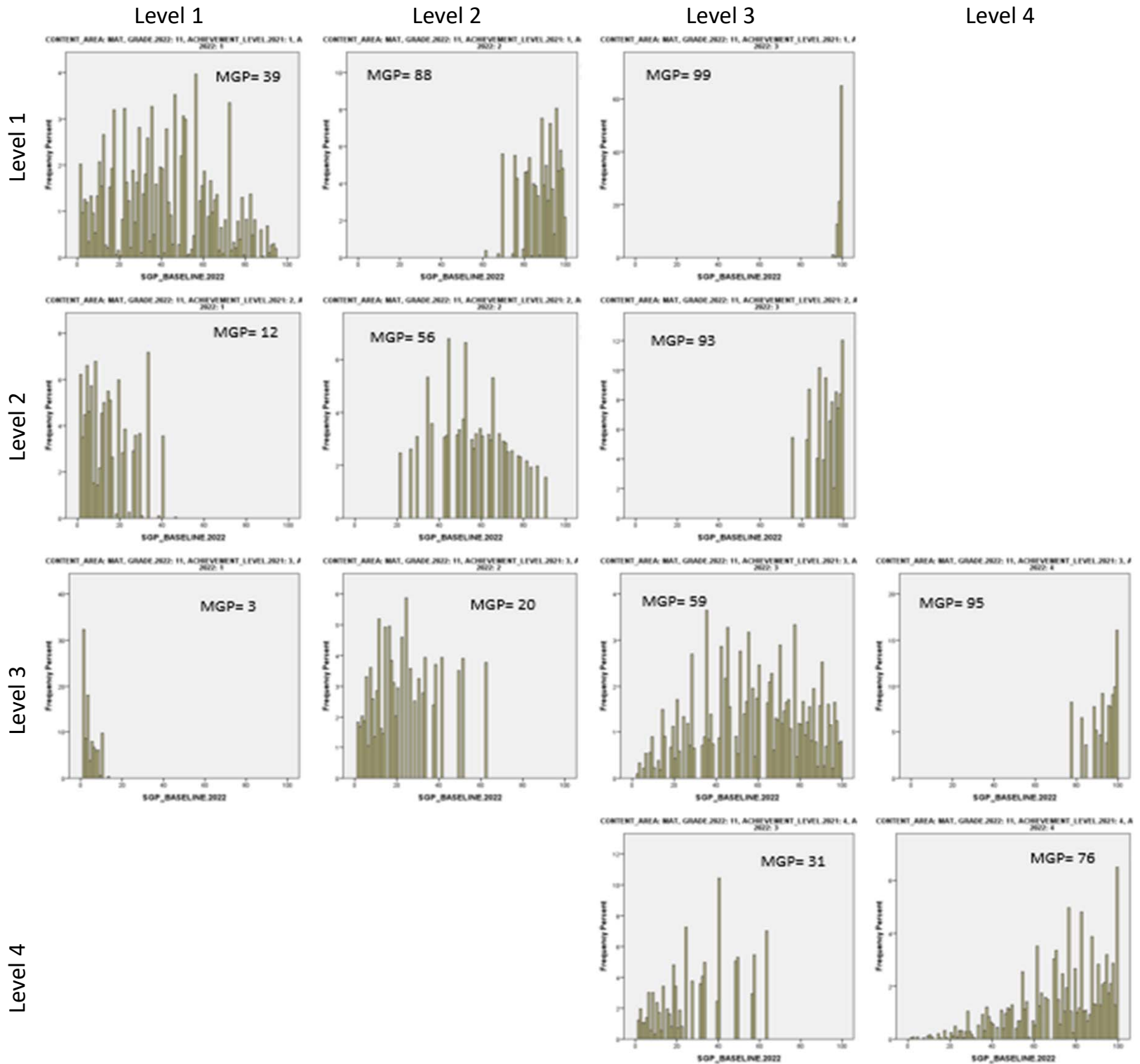
# P/SAT SGP Distribution by Proficiency Levels in 2018 and 2019

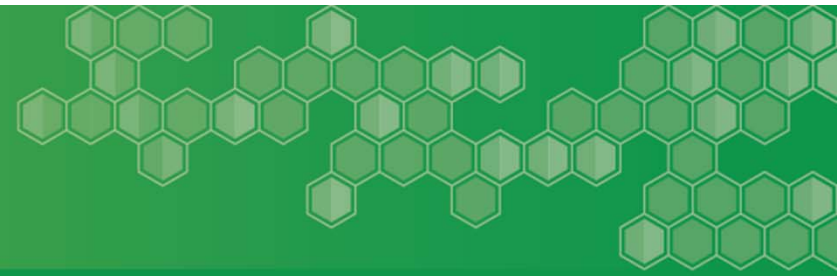
## Math Grade 10 to Grade 11



# P/SAT SGP Distribution by Proficiency Levels in 2021 and 2022

## Math Grade 10 to Grade 11





- Does the TAP recommend that the HS On Track growth targets mirror CMAS and increase 1 proficiency level each year?

# Pandemic Interruptions, Implications and Future Timelines

- Current plan for Fall 2023 performance frameworks to include informational On-Track Growth metrics for CMAS elementary/middle and P/SAT for high school, then for points in 2024.
- Next meeting, continue to discuss HS On Track Growth decision points