

A–F Accountability System Development for 2017–18 and Beyond Accountability Technical Advisory Committee (ATAC)

HB 22 Options for Domain Models

This document provides both a review of and topics for discussion regarding implementation of statutory requirements in House Bill 22 (HB 22), 85th Texas Legislature, for the 2017–18 school year and beyond.

Review of HB 22 Domain Requirements

See the *HB 22 Overview* document for a general overview of HB 22 domain requirements and indicators.

STUDENT ACHIEVEMENT DOMAIN (STAAR PORTION)

HB 22 requires the Student Achievement domain to include STAAR assessment results at both the Approaches Grade Level and Meets Grade Level standards. The model outlined below includes the Masters Grade Level standard along with the statutorily required standards. For purposes of modeling, data for the Student Achievement domain is based on 2017 STAAR assessment results from the accountability ratings released in August 2017. The data are constructed at the test level using the universe of campuses and districts for 2017 accountability.

The Student Achievement calculation uses a methodology in which scores are calculated based on students' level of performance at Approaches Grade Level or above, Meets Grade Level or above, and Masters Grade Level. Assessments are included in the model based on the following assumptions:

Non-ELL or Tests with No ELL PM Such as Parental Denials and ELL PM Plan Exceeders

Standard	STAAR (with or without accommodations) Tests	STAAR Alternate 2 Tests
Approaches Grade Level or above	Approaches Grade Level standard or above (including substitute assessments)	Level II Satisfactory or above
Meets Grade Level or above	Meets Grade Level or above (including substitute assessments)	Level II Satisfactory or above
Masters Grade Level	Masters Grade Level standard	Level III Accomplished

ELL (excludes all year one and asylee/refugee/SIFE through year five)

Standard	Years in US 2 (STAAR, STAAR A, and STAAR-L)	Years in US 3 or above (STAAR, STAAR A, and STAAR-L)
Approaches Grade Level or above	Met or Exceeded ELL PM	Approaches Grade Level standard or above (including substitute assessments)
Meets Grade Level or above	Exceeded ELL PM or Approaches Grade Level standard or above	Meets Grade Level or above (including substitute assessments)
Masters Grade Level	Meets Grade Level standard or above	Masters Grade Level standard

One point is given for each percentage of assessment results that are at or above the following:

- Approaches Grade Level or above
- Meets Grade Level or above
- Masters Grade Level

Performance is measured across all grades and subjects. Campuses and districts with fewer than 10 tests across all subjects and grades are not evaluated. The Student Achievement domain is calculated by dividing the total points (cumulative performance for the three performance levels) by 300 (the maximum number of points), resulting in an overall score of 0 to 100 for all campuses and districts.

EL Performance Measure (EL PM)

Topic for Discussion: Replace the current EL Progress Measure with an EL Performance Measure (STAAR Alternate Standards for 2nd year EL students).

ETS can employ a method for reporting appropriate EL performance standards. In essence, they will report whether the student has met the EL PM if their years in US schools equal to “2”. For example, in addition to evaluating whether they have achieved Approaches, Meets, and Masters, ETS will also evaluate whether they have met the following EL PM.

- Example: The EL PM **Approaches** for 2nd year EL students will be lowered by $\frac{3}{4}$ of the distance from the STAAR Approaches standard to Guessing. Numerically: Scale score = Approaches – $(1 - \frac{1}{4}) * (\text{Approaches} - \text{Guessing})$
- Example: The EL PM **Meets** for 2nd year EL students in a 4-year plan will be lowered by $\frac{3}{4}$ of the distance from the STAAR Meets standard to Approaches standard. Numerically: Scale score = Meets – $(1 - \frac{1}{4}) * (\text{Meets} - \text{Approaches})$
- Example: The EL PM **Masters** for 2nd year EL students in a 4-year plan will be lowered by $\frac{3}{4}$ of the distance from the STAAR Masters standard to Meets standard. Numerically: Scale score = Masters – $(1 - \frac{1}{4}) * (\text{Masters} - \text{Meets})$

MAJOR ISSUE: *This proposal does not take plan year into account.* Currently, ELL Progress Measure needs TELPAS information (years in US, TELPAS composite score) to calculate. TELPAS is going to be different next year, listening and speaking are standardized and reading will be shortened, and there will

be standard settings, and the method to calculate TELPAS composite is not decided yet. ELL PM plan year cannot be calculated without TELPAS composite.

STAAR Alternate 2

Currently, STAAR Alternate 2 has only two performance levels—Level II: Satisfactory Performance and Level III: Accomplished Performance. In past accountability systems and in A–F modeling data, assessments at the Level II achievement was credited for the Approaches Grade Level standard as well as the Meets Grade Level standard. Level III achievement was credited for Masters Grade Level. This crediting will continue until an Approaches Grade Level equivalent for STAAR Alternate 2 is devised.

STUDENT ACHIEVEMENT DOMAIN (NON-STAAR PORTION)

The A–F system based on HB 22 defines three components for high schools, K–12s, and districts: 1) STAAR scores; 2) College, Career, and Military Readiness; and 3) Graduation rates.

STAAR Scores

See description above.

College, Career and Military Ready (CCMR)

Computational Logic

1. Denominator is 2016 annual graduates.
 2. Student who accomplishes any one is in numerator.
 3. All CCMR indicators lag by one year. (CCMR data used in 2017–18 accountability will be from the 2016–17 school year.)
- **Meet criteria on AP/IB exams**
Data as modeled: scoring at or above a 3 in AP or 4 in IB on at least one exam in any subject area.
 - **Meet TSI criteria (SAT/ACT/TSIA) in reading and mathematics**
Data as modeled: meeting reading TSI criteria on TSIA, SAT, or ACT **and** meeting mathematics TSI criteria on TSIA, SAT or ACT.
 - **Complete a college prep course offered by a partnership between a district and higher education institution as required from HB5**
Data as modeled: Completion of ELA/reading **and** mathematics college prep course.
 - **Complete a course for dual credit**
Data as modeled: Completion of 9 or more hours of dual credit in any subject area in SY2013, SY2014, SY2015, or SY2016.

- **Complete an OnRamps course**

Data not available until summer of 2018. OnRamps course completion data will begin collection in the 2017–18 school year as part of the course completion collection. Because the data used in CCMR lags one year, the data for this indicator will not be used until the 2019 accountability ratings. We have heard from some districts that although they can credit the course completion for OnRamps at the district level, obtaining transcripts from the colleges is difficult. Because of this, we will look for an indication from the district/campus that the OnRamps course has been completed.

- **Earn an associate’s degree**

Data not available until fall 2017 leaver data submission. Associate’s degree data will begin collection in 2017–18. The PEIMS collection that takes place in the fall is associated with leaver data. Because of this, the data will be available for use in 2018 for those annual graduates who may have earned an associate’s degree while still in high school.

- **Meet standards on a composite of indicators indicating college readiness**

Data not available.

- **Earn industry certification.**

Data not available until fall 2017 leaver data submission.

- **Be admitted to post-secondary industry certification program**

Data not available.

- **Enlist in the United States Armed Forces**

Data not available until fall 2017 leaver data submission.

Statewide Model CCMR Outcomes Based on Data Available as of September 2017

Total Met CCMR	Met TSI Criteria	Met 9+ Hours of Dual Credit	Met AP/IB Criteria	Met College Prep Course Requirement	Freq.	Pct.	Cum. Freq.	Cum. Pct.
0	0	0	0	0	196,688	60.65	196,688	60.65
1	0	0	0	1	1,949	0.60	198,637	61.25
1	0	0	1	0	5,265	1.62	203,902	62.87
1	0	1	0	0	21,449	6.61	225,351	69.49
1	1	0	0	0	47,106	14.52	272,457	84.01
2	0	0	1	1	36	0.01	272,493	84.02
2	0	1	0	1	321	0.10	272,814	84.12
2	0	1	1	0	1,317	0.41	274,131	84.53
2	1	0	0	1	164	0.05	274,295	84.58
2	1	0	1	0	26,794	8.26	301,089	92.84
2	1	1	0	0	15,931	4.91	317,020	97.75
3	0	1	1	1	2	0.00	317,022	97.75
3	1	0	1	1	6	0.00	317,028	97.75
3	1	1	0	1	30	0.01	317,058	97.76
3	1	1	1	0	7,251	2.24	324,309	100.00
4	1	1	1	1	2	0.00	324,311	100.00

Graduation and Dropout Rate

Current Methodology

<p>Four-Year Longitudinal Graduation Rate (2016 example)</p>	<p>Number of students in 2012–13 cohort (students who first attended 9th grade in 2012–13 or who transferred in to Texas public schools on grade in 2013–14, 2014–15, or 2015–16) who received a high school diploma by August 31, 2016</p> <p>(from PEIMS)</p> <p>---divided by---</p> <p>Number of students in the Class of 2016</p> <p>(from PEIMS and GED)</p>
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<p>Five-Year Longitudinal Graduation Rate (2015 example)</p>	<p>Number of students in the 2011–12 cohort (students who first attended 9th grade in 2011–12 or who transferred in to Texas public schools on grade in 2012–13, 2013–14, or 2014–15) who received a high school diploma by August 31, 2016</p> <p><i>(from PEIMS)</i></p> <p>---divided by---</p> <p>Number of students in the Class of 2015</p> <p><i>(from PEIMS and GED)</i></p>
<p>Six-Year Longitudinal Graduation Rate (2014 example)</p>	<p>Number of students in the 2010–11 cohort (students who first attended 9th grade in 2010–11 or who transferred in to Texas public schools on grade in 2011–12, 2012–13, or 2013–14) who received a high school diploma by August 31, 2016</p> <p><i>(from PEIMS)</i></p> <p>---divided by---</p> <p>Number of students in the Class of 2014</p> <p><i>(from PEIMS and GED)</i></p>

Annual Dropout Rate is used for high schools and districts in cases where the campus or district has grade 9, 10, 11, or 12 but does not have a longitudinal graduation rate.

Current Methodology

<p>Annual Dropout Rate</p>	<p>Number of grade 9–12 dropouts in a given school year</p> <p><i>(from PEIMS)</i></p> <p>---divided by---</p> <p>Number of grade 9–12 students who were in attendance at any time during a given school year</p> <p><i>(from PEIMS)</i></p>
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Topic for Discussion: How should the three components be weighted?

For modeling purposes, the data for high schools, K–12s, and districts have been weighted three different ways:

Student Achievement Domain Component	Option A	Option B	Option C
STAAR	30 percent	40 percent	45 percent
CCMR	50 percent	40 percent	45 percent
Graduation Rate	20 percent	20 percent	10 percent

If a campus or district is missing the graduation rate component, the percentage that would have been used for graduation rate will be split equally between the STAAR and CCMR components. If the CCMR component is missing, then the entire domain is based on STAAR only.

Example Using Option B

Student Achievement Domain Component	Option B	Option B, no Graduation Rates	Option B, no CCMR
STAAR	40 percent	50 percent	100 percent
CCMR	40 percent	50 percent	N/A
Graduation Rate	20 percent	N/A	0 percent

Selected Percentiles for Different Weighting Options by School Type

School Type	Option	Percentiles						
		Min	10th	25th	Median	75th	90th	Max
High School	A	17	40	45	52	61	73	98
	B	17	41	46	53	61	73	97
	C	16	35	40	48	57	70	96
K–12	A	4	34	41	51	63	74	92
	B	6	37	42	51	62	72	90
	C	6	30	37	46	58	69	88
AEA	A	3	15	21	27	32	37	56
	B	4	16	23	28	35	40	55
	C	4	13	17	21	27	34	50

SCHOOL PROGRESS DOMAIN

HB 22 requires the School Progress domain measure two things:

1. Percent of students who met the standard for improvement (**Student Growth**)
2. Overall student performance compared to similar districts and campuses (**Relative Performance**)

Student Growth

School Progress Domain: Planned Growth Model Matrix					
		Current Year			
		Does Not Meet	Approaches Grade Level	Meets Grade Level	Masters Grade Level
Previous Year	Does Not Meet	Met or Exceeded Growth Measure = 1 point, Else = 0 points	Met or Exceeded Growth Measure = 1 point, Else = 0.5 points	1 point	1 point
	Approaches Grade Level	Met or Exceeded Growth Measure = 1 point, Else = 0 points	Met or Exceeded Growth Measure = 1 point, Else = 0.5 points	1 point	1 point
	Meets Grade Level	0 points	0 points	1 point	1 point
	Masters Grade Level	0 points	0 points	0 points	1 point

Methodological notes

- All Students only
- Includes all tests with eligible growth measures.
- Growth measure = STAAR Progress Measure
- Includes ELs (except in their first year in US schools)
- Uses same STAAR Progress Measure for ELs and non-ELs
- EL Progress measure is **not** used

Topic for Discussion: What to do about growth for high schools?

In high school, there are limitations to measuring growth with STAAR. It can only possibly be done for Algebra I tests and then only for English II. Because of this, as currently modeled, only Relative Performance will be analyzed for high schools.

Example Calculation

A campus has 100 grade 3–8 students, all of whom took a reading and mathematics STAAR assessment in the current year and the prior year (denominator = 200 STAAR Progress Measures).

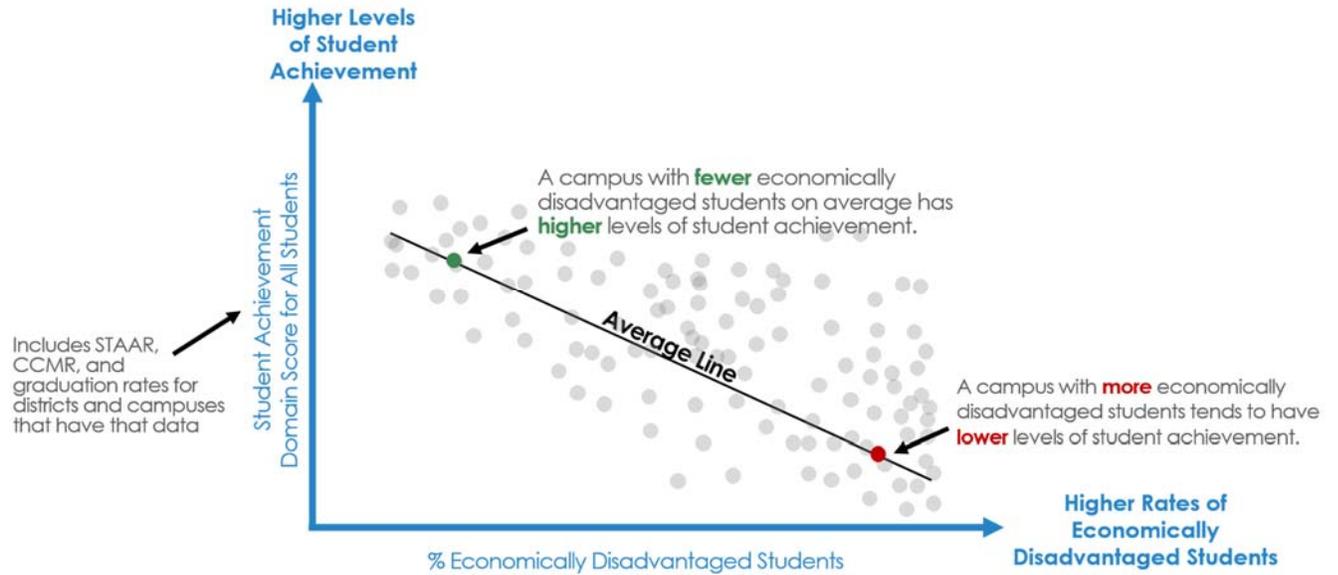
No Points

Prior Year Outcome	Current Year Outcome	STAAR Growth Outcome	Count of Tests
Does Not Meet	Does Not Meet	Does Not Meet	20
Approaches	Does Not Meet	Does Not Meet	15
Masters	Meets	N/A	14
Total with No Points			49
Half Point			
Does Not Meet	Approaches	Does Not Meet	7
Approaches	Approaches	Does Not Meet	10
Total with Half-point			17
One Point			
Does Not Meet	Does Not Meet	Met or Exceeded	15
Approaches	Approaches	Met or Exceeded	20
Meets	Meets	N/A	33
Meets	Masters	N/A	32
Masters	Masters	N/A	17
Total with One Point			117

$$\frac{(49 \times 0) + (17 \times 0.5) + (117 \times 1)}{200} = \frac{125.5}{200} = 63$$

Student Growth Scores: Frequency by Campus Type					
	Elementary (4,219)	Middle School (1,653)	K–12 (334)	High School (1,271)	District (1,203)
Quantile	Student Growth Score (based on modeling data from 2017 accountability)				
100% (Max)	100	96	100	100	100
99%	88	85	87	89	86
95%	84	81	83	84	79
90%	82	78	80	81	77
75% (Q3)	78	75	76	75	73
50% (Med)	73	70	70	69	70
25% (Q1)	68	65	64	63	66
10%	63	61	59	57	62
5%	59	59	56	53	59
1%	52	54	45	45	49
0% (Min)	34	41	0	0	24

Relative Performance



Methodological Notes

- Scatter plot of each district and campus (by campus type) comparing
 - Student Achievement domain score
 - Percentage of students who are economically disadvantaged
- Trendline showing average relationships
- Sliding cut points for campuses and districts based on
 - Student Achievement domain score
 - Percentage of students who are economically disadvantaged
- Cut points for each grade based on bands below and above the average line
- Separate cut points
 - Elementary Schools
 - Middle Schools
 - High Schools/K–12
 - AEAs

Standardization of Data for Cut Points

Step 1: A regression is run in to obtain each campus/district residual and predicted value. For campuses, the regression is run within 4 separate groups: Elementary, Middle School, High School/K–12 mix, and AEA.

Step 2: Obtain the standard deviation of the residual by campus type (Elementary = 8.5, Middle = 7.6, High/K–12 = 12.7, AEA = 7.9).

Step 3: The amount of Student Achievement domain score required for an A, B, C, or D can be created by using the number of standard deviations above and below the predicted value. For modeling purposes, we used

- A = 1.2 stand deviations above,
- B = 0.4 standard deviations above,
- C = 0.4 standard deviations below,
- D = 1.2 standard deviations below,
- F = more than 1.2 standard deviations below

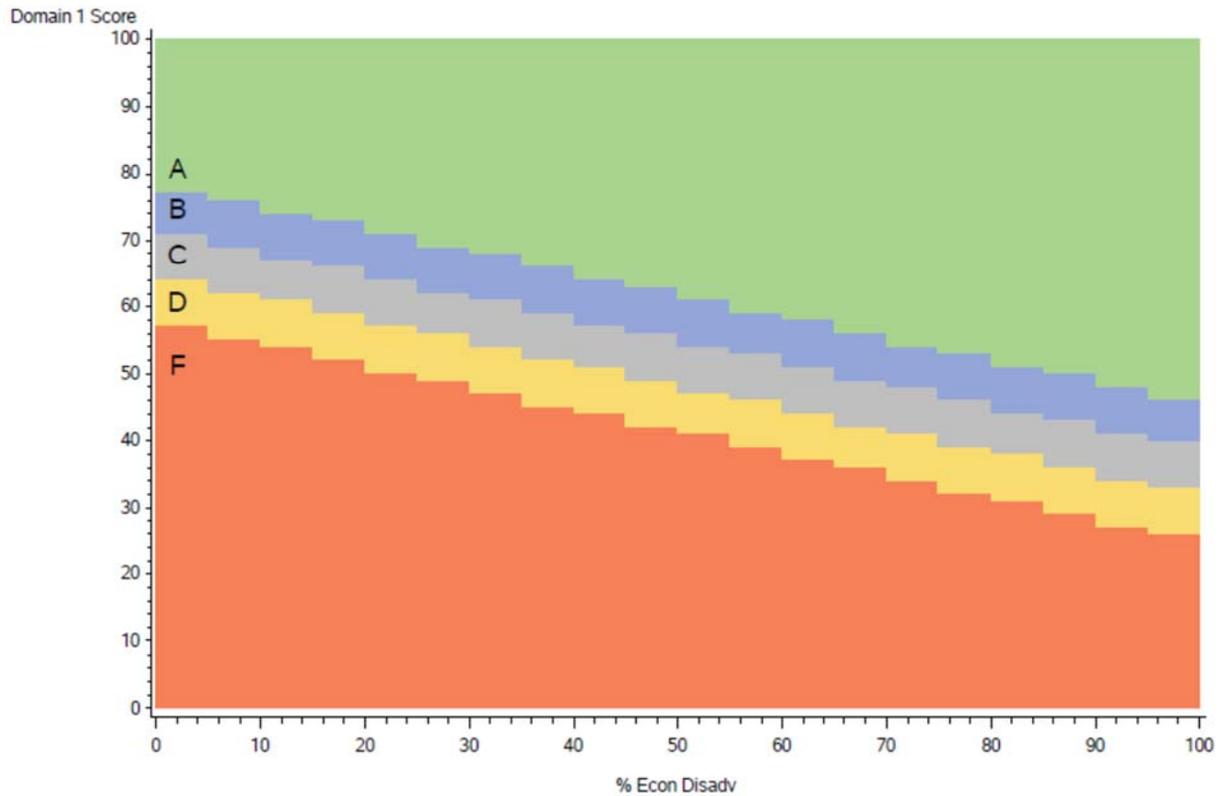
Step 4: Cut scores are created for each letter grade for each campus by adding or subtracting these calculated values from the predicted Student Achievement domain score. These cut scores vary according to the percentage of economically disadvantaged for a given campus.

Step 5: The cut scores tend to stay very close or the same for economically disadvantaged percentages which are very close to one another. Finding groupings to share the same cuts is a way to simplify. For purposes of modeling we chose ranges of 5%.

Example Standardized Look-up Table:

	Elementary				Middle School				High School K–12			
Econ Disadv %	A	B	C	D	A	B	C	D	A	B	C	D
0 to 5	77	71	64	57	76	70	64	58	80	70	60	49
5.1 to 10	76	69	62	55	75	68	62	56	78	68	58	48
10.1 to 15	74	67	61	54	73	67	61	55	77	67	57	46
15.1 to 20	73	66	59	52	71	65	59	53	75	65	55	45
20.1 to 25	71	64	57	50	68	62	56	50	74	64	54	43
25.1 to 30	69	62	56	49	67	61	55	49	73	62	52	42
30.1 to 35	68	61	54	47	64	58	52	46	71	61	51	41
35.1 to 40	66	59	52	45	63	57	51	44	69	59	49	39
40.1 to 45	64	57	51	44	61	55	49	43	68	58	48	38
45.1 to 50	63	56	49	42	59	52	46	40	67	57	46	36
50.1 to 55	61	54	47	41	57	51	45	39	65	55	45	35
55.1 to 60	59	53	46	39	55	49	43	37	64	54	44	34
60.1 to 65	58	51	44	37	53	47	41	35	63	52	42	32
65.1 to 70	56	49	42	36	51	45	39	33	61	51	41	31
70.1 to 75	54	48	41	34	49	43	37	31	60	49	39	29
75.1 to 80	53	46	39	32	47	41	35	29	58	48	38	28
80.1 to 85	51	44	38	31	45	39	33	27	57	47	36	26
85.1 to 90	50	43	36	29	43	37	31	25	55	45	35	25
90.1 to 95	48	41	34	27	41	35	29	23	54	44	33	23
95.1 to 100	46	40	33	26	39	33	27	21	52	42	32	22

Graphical Representation of Standardization (Elementary Example)



Topic for Discussion: How should we combine Student Growth and Relative Performance? Best of? Weighted Average? Average?

Topic for Discussion: For Student Growth, what percentage of students need to grow to constitute excellent performance? What is minimally acceptable growth?

CLOSING THE GAPS DOMAIN

HB 22 requires the Closing the Gaps domain measure achievement differentials among students, including differentials among students from different racial and ethnic groups and socioeconomic backgrounds and other factors including: students formerly receiving special education services, continuously enrolled students, and students who are mobile.

See the Sample report “Closing the Gaps Domain” for details regarding indicators.

Students Formerly Receiving Special Education Services

HB 22 states, “a student formerly receiving special education services means a student whose enrollment information: (1) for the preceding school year, as reported through the Public Education Information Management System (PEIMS), indicates the student was enrolled at the campus and was participating in a special education program; and (2) for the current school year, as reported through the Public Education Information Management System (PEIMS) and as reported on assessment instruments administered to the student indicates the student is enrolled at the campus and is not participating in a special education program.”

Modeling the prescribed definition as written in HB 22 an extremely small number of students considered “formerly special education”. Additionally, if 25 is used as the student group minimum size threshold only a small number of districts and campuses, mostly in highly populated districts, will be assessed on the various indicators for “formerly special education”. Only 6 campuses (out of 8,678) and 142 districts (out of 1,207) that would meet minimum size for evaluation.

The table below shows the percentage of formerly special education students going back three years rather than the single year as prescribed in HB22.

Status	Frequency	Percent	Cumulative Freq	Cumulative Pct
Not Sp Ed	3,467,477	90.6	3,467,477	90.6
Current Sp Ed	339,430	8.9	3,806,907	99.5
Former Sp Ed	19,196	0.5	3,826,103	100.0

Topic for Discussion: What could be done to make this statutory requirement meaningful?

Continuously Enrolled and Mobile Students

It is difficult to define “continuously enrolled” students for campuses in the state due to the variation in grade spans. For purposes of modeling, a proxy using PEIMS snapshot enrollment in the district for the prior three years in conjunction with enrollment within a campus in the same district was created.

Example Continuous Enrollment Determination as Modeled

District PEIMS Snapshot Fall 2013	District PEIMS Snapshot Fall 2013	District PEIMS Snapshot Fall 2013	Campus within District PEIMS Snapshot 2016	Continuously Enrolled or Mobile
YES	YES	YES	YES	Continuously Enrolled
YES	NO	YES	YES	Mobile
NO	NO	YES	YES	Mobile

Other options such as attendance for 83 percent of the school year or attendance in the last six-week's attendance period were used. Neither of these options provided the simplicity of the PEIMS enrollment option. After modeling, about 72 percent of STAAR assessments were taken by students considered "continuously" enrolled. Mobile students would be considered the inverse of this or about 28 percent.

Topic for Discussion: What other methods could be used to define continuously enrolled?