COMPARATIVE GROWTH MODEL OVERVIEW:

STAAR

Comparative Growth measures the progress of a teacher's students on a given assessment compared to all other students within the same school district with the same or similar starting score. Comparative Growth relies on the use of standardized assessments administered in the district in certain grades and subjects and is computed by the HISD Research and Accountability Department using two consecutive years of students' scores.

A Comparative Growth Model has been in used in HISD starting in the 2011–2012 school year for select grades and subjects where norm-referenced tests (NRTs) and TELPAS assessments were administered. Beginning in the 2015–2016 school year, Comparative Growth was calculated using the STAAR assessments. The remainder of this overview describes the Comparative Growth Model for STAAR.

Indicators: Comparative Growth Teacher Median Percentile. Comparative Growth Median Percentiles are calculated for each tested subject: Reading/ELA (grades 4–8), Math (grades 4–8), Writing (grades 4 & 7), Science (grades 5 & 8), Social Studies (grade 8), Algebra I, Biology, English I & II, and US History.

Summary: A Teacher Median Percentile is calculated by taking the median of all of a teacher's students' Comparative Growth scores (District Percentile Ranks). To be included in the Comparative Growth analysis, students must have a "regular testing history" (expected grade progression), must have been tested **within the district** in the current and previous year, and must have a minimum of 25 students in their cohort group in order to be used for analysis. Teachers must be linked to these students for at least 20 percent of instruction, and have at least seven students with Comparative Growth analysis in order to have Median Percentile generated.

Method: Teachers are provided a Comparative Growth Teacher Median Percentile based on students' District Percentile Ranks in each subject and grade for which a qualifying number of students are linked to them. The following steps describe the Comparative Growth model. These steps are conducted separately for each subject and grade.

1. Student STAAR scale scores from the current year grade are collected.
2. Student STAAR scale scores from the prior year grade are collected.
3. Students whose prior-year scores do not follow the expected grade progression are excluded (i.e., students who skip a grade or students who repeat a grade). Because of this, most students in the analysis will be first-time testers. Exceptions are made for Algebra I (student scores from sixth, seventh, or eighth grade math STAAR may be used) and for Biology (student scores from eighth grade science STAAR or seventh grade math STAAR may be used).
4. students are created by first ranking all students' Year 1 scores from lowest to highest. Students at the same scale score form a cohort. If this group consists of fewer than 25 students, scores are grouped with the next highest score, and the process is repeated until a minimum of 25 is reached. This process is repeated until the highest scale score is reached. If students from the highest score form a cohort less than 25, they are grouped with the next lowest score until the minimum cohort size is reached.
5. From each of the groups described above, all students who scored the same or similar scale score in the prior year form a cohort. If a cohort group has less than 25 students, no analysis is conducted for those students.
6. For each cohort of students, the current year STAAR scores are rank-ordered within the cohort.

7. Rank scores are converted to percentiles using the Hazen formula to construct the percentile ranks. The Hazen formula takes into account extreme differences in the tails when calculating percentile ranks.
8. For all students who scored one of the top three scores on a test for both the previous year and current year, the final percentile rank was calculated to be in the 99th percentile.
9. Students are linked to teachers during HISD Spring Verification and Linkage on the ASPIRE portal. Only students linked to a teacher for at least 20 percent of instruction (cumulative for the school year) are included. Thus, a student could be used for more than one teacher's Comparative Growth Median Percentile.
10. Teachers who do not have at least seven tested students claimed for at least 20 percent instruction in a subject are excluded and will not receive a Comparative Growth score for that subject and grade.
11. Comparative Growth reports are prepared for all subjects and grades for which student-teacher linkages were provided. However, only those subject and grades which were indicated through TADS in the Fall are included in a teacher's SP rating and TADS appraisal. Inclusion for TADS is indicated at the top of each report a teacher receives.
12. To calculate the Teacher Median Percentile for a subject and grade, the median of all students linked to the teacher in a particular subject and grade level who have a calculated percentile rank (see 1–8 above) is calculated. This median serves as the Comparative Growth Teacher Median Percentile for that subject and grade level.
13. The Comparative Growth Teacher Median Percentile for each grade and subject taught is converted to a Comparative Growth Performance Level according to the tables below. The cut scores were determined using 2017-2018 means and standard deviations by subject and grade level.

Performance Level	ELA Teacher Median Percentile Ranges				
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
4 - Highly Effective	>=65.3	>=67.3	>=61.3	>=61.1	>=60.3
3 - Effective	50.5 – 65.2	51.9 – 67.2	49.2 – 61.2	48.5 – 61.0	47.1 – 60.2
2 - Needs Improvement	35.7 – 50.4	36.5 – 51.8	37.1 – 49.1	35.9 – 48.4	33.9 – 47.0
1 - Ineffective	<=35.6	<=36.4	<=37.0	<=35.8	<= 33.8

Performance Level	Math Teacher Median Percentile Ranges				
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
4 - Highly Effective	>=69.9	>=70.9	>=67.3	>=63.8	>=67.6
3 - Effective	51.2 – 69.8	51.8 – 70.8	50.0 – 67.2	48.8 – 63.7	49.3 – 67.5
2 - Needs Improvement	32.5 – 51.1	32.7 – 51.7	32.7 – 49.9	33.8 – 48.7	31.0 – 49.2
1 - Ineffective	<=32.4	<=32.6	<=32.6	<=33.7	<=30.9

Performance Level	Writing, Science, and Social Studies Teacher Median Percentile Ranges				
	Writing Grade 4	Writing Grade 7	Science Grade 5	Science Grade 8	Social Studies Grade 8
4 - Highly Effective	>=67.8	>=59.8	>=66.9	>=64.1	>=71.1
3 - Effective	50.7 – 67.7	45.7 – 59.7	49.9 – 66.8	49.1 – 64.0	52.3 – 71.0
2 - Needs Improvement	33.6 – 50.6	31.6 – 45.6	32.9 – 49.8	34.1 – 49.0	33.5 – 52.2
1 - Ineffective	<=33.5	<=31.5	<=32.8	<=34.0	<=33.4

Performance Level	EOC Teacher Median Percentile Ranges				
	Algebra I	**Biology**	**English I**	**English II**	**US History**
4 - Highly Effective	>=69.8	>=65.8	>=61.3	>=62.8	>=63.8
3 - Effective	51.0 – 69.7	50.0 – 65.7	47.8 – 61.2	49.2 – 62.7	50.1 – 63.7
2 - Needs Improvement	32.2 – 50.9	34.2 – 49.9	34.3 – 47.7	35.6 – 49.1	36.4 – 50.0
1 - Ineffective	<=32.1	<=34.1	<=34.2	<=35.5	<=36.3

Assessments used in the calculation:

Prior Year	**Current Year**
3rd-7th grade STAAR Reading/Math	4th-8th grade STAAR Reading/Math
3rd or 6th grade STAAR Reading	4th or 7th grade STAAR Writing
4th grade STAAR Reading	5th grade STAAR Science
7th grade STAAR Math	8th grade STAAR Science
7th grade STAAR Reading	8th grade STAAR Social Studies
6th or 7th or 8th grade STAAR Math*	STAAR Algebra I
7th grade STAAR Math or 8th grade STAAR Science^	STAAR Biology
8th grade STAAR Reading	STAAR English I
STAAR English I	STAAR English II
STAAR English II	STAAR US History

*For 7th or 8th grade students who take the STAAR Algebra I test, the prior year assessments are the 6th or 7th grade STAAR Math test respectively.

^For 8th grade students who take the STAAR Biology test in the current year, the prior year assessments are the 7th grade STAAR Math test.

Additional Resources: The "Growth Data" page on the ASPIRE portal contains several documents that are designed to help educators better understand Comparative Growth.