EVAAS® (Educational Value-Added Assessment System) Sources and Definitions 2014–2015

SAS® EVAAS® for K-12 is SAS Institute's trademarked name for value-added analysis.

Data Sources: EVAAS uses STAAR 3-8, STAAR End-of-Course (EOC), and Iowa/Logramos Assessment results, displayed in Normal Curve Equivalents (NCEs) or scale scores (depending on the assessment), for End-of-Year assessments. Diagnostic reporting enables educators to explore patterns in student growth by students' demographic subgroups and entering achievement. Student demographic information are included so that educators may explore patterns in student growth for different groups of students. Value-added reports are generated for the following grades and subjects based on the assessment indicated:

Subject Area	Grades	Assessment Used to Provide Value-Added Measures	Model Used to Provide Value-Added Measures
Language Arts	3-8	Iowa/Logramos Assessment	Predictive (URM)
Math	3	STAAR	Predictive (URM)
	4-8	STAAR	Gain (MRM)
	N/A	Algebra I EOC	Predictive (URM)
Reading	3	STAAR	Predictive (URM)
	4-8	STAAR	Gain (MRM)
	N/A	English I EOC and English II EOC	Predictive (URM)
Science	4, 6, and 7	Iowa/Logramos Assessment	Predictive (URM)
	5 and 8	STAAR	Predictive (URM)
	N/A	Biology EOC	Predictive (URM)
Social Studies	4-7	Iowa/Logramos Assessment	Predictive (URM)
	8	STAAR	Predictive (URM)
	N/A	US History EOC	Predictive (URM)

Models Used to Provide Value-Added Measures

Gain Model (MRM): EVAAS compares the average student growth in your school to the typical growth of similar students in Texas. Your school's student academic growth is represented in mean NCE gains, which is the change in achievement on a scale similar to percentiles. Campus and district gains are the difference in estimated means between the current and previous year, taking into account mobility of students. For example, the estimates for the prior year used in the gain calculation for a school are a weighted average based on the means for the schools previously attended by the students. Both means and gains are reported in NCEs.

The STAAR state population distribution from the current year is used to create NCEs for students in the current year. The state distribution from the prior year is used to create NCEs for students in the prior year. All student scores are utilized in an effort to include as many students in the analysis as possible and to avoid the potential bias of using only those students with complete testing histories. All the available test data in the testing matrix for each student is simultaneously analyzed to produce the estimated means described above.

Predictive Model (URM): Students must have at least three prior assessment scores to be included in the predictive model. EVAAS uses the average performance of students who took the assessment in the current year to build a model that predicts what each student would score, given his or her prior testing history and the average performance of students similar in achievement, EVAAS then compares what each student was expected to score with what he or she actually scored. That difference in what was expected for the student and what he or she actually scored is the basis for the "effect", i.e. the influence the teacher or school had on the student's learning. In this model, value-added measures are reported in the same scale as the test, with the exception of value-added measures for STAAR Math in Grade 3. For this assessment, value-added measures are reported in NCEs.

A special consortium of Texas schools allows their STAAR 3-8 and STAAR EOC data to be pooled so that EVAAS is able to compare Houston's growth to about 15 percent of the state. However, for the Iowa/Logramos Assessment, there is no consortium or statewide reference population; therefore, for these assessments, there is no district value-added reporting. For the Iowa/Logramos Assessments, each school in Houston is compared to the average school in the district while each teacher is compared to the average teacher in the district.

Key Terms:

NCE (Normal Curve Equivalent): NCEs represent a distribution of scores in a population. EVAAS uses NCEs to measure achievement across time for groups of students. The mean of this scale is 50, and its standard deviation is 21.06. The NCE scale is similar conceptually to percentiles in that the range of possible scores is from 1 to 99. The key difference between percentiles and NCEs is that the NCE distribution is an equal-interval scale, which is not the case with percentiles. This characteristic of NCEs makes it suitable for comparing achievement levels across time for groups of students.

Mean NCE Gain: The difference in estimated student means between the current year and previous year. Provided for the Gain Model growth measures.

Effect: A conservative estimate of influence on students' academic progress, which is a function of the difference between the Average Predicted Score and the Average Student Score. Provided for the Predictive Model growth measures.

Standard Error: Growth is reported as an estimate and its significance depends on the amount of certainty in the estimate. This certainty is expressed in terms of the Standard Error.

Gain Index: Calculated by dividing the Growth Measure (Mean NCE Gain or Effect) by the Standard Error.

Cumulative Gain Index (CGI): A way of standardizing school or teacher effects across grades.