

## Appendix E – Student Growth Measures

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Prior to the 2011 accountability year, up to three measures of student growth were used in various ways in the state accountability system: the Texas Growth Index (TGI), the Texas Projection Measure (TPM) and Vertical Scale Score Growth (VSG). As of the 2011 accountability year, among these three measures, only VSG plays a role in the state rating system. For information about the previous uses of TGI and TPM in state accountability, see *Appendix E* of the *2010 Accountability Manual*.

Vertical scales were developed in 2009 in response to state legislative requirements. Vertical scales were developed for TAKS reading and mathematics tests in grades 3–8 (including Spanish reading and mathematics in grades 3-5). Vertical scales are not reported for TAKS writing (grades 4 and 7), science (grades 5, 8, 10, and exit level), social studies (grades 8, 10, and exit level), reading and mathematics at grade 9, or English language arts and mathematics at grade 10 and exit level. Performance results on these assessments continue to have a scale score of 2100 for Met Standard and 2400 for Commended Performance.

With a vertical scale, a student’s scale score in one grade can be compared to the student’s scale score in another grade as long as the scores are in the same language and subject. Vertical scale score changes are actual changes in performance. A vertical scale enables the progress of students who have different initial proficiency levels to be compared.

### USES OF VERTICAL SCALE SCORE GROWTH IN 2011 STATE ACCOUNTABILITY

Prior to 2010, the TGI was used to calculate Comparable Improvement (CI), an acknowledgment awarded under the Gold Performance Acknowledgment (GPA) system for campuses evaluated under standard procedures. CI is awarded separately for reading and mathematics. With the transition to the use of a vertical scale for reading and mathematics in grades 3-8, the TGI is no longer available for CI for these grades and subjects. Instead, beginning in 2010, VSG is used to determine CI. See *Chapter 5 – Gold Performance Acknowledgments* for information about CI criteria and standards.

**Who is included:** Students are included in a school’s CI calculation if they:

- took the spring 2011 TAKS reading and/or mathematics tests, in grades 4-8;
- are part of the 2011 *Accountability Subset* (see *Chapter 2*);
- can be matched to the spring 2010 TAKS administration—anywhere in the state—to find their prior year performance for reading, and/or mathematics; and,
- have been promoted to one higher grade than in 2010.

VSG is defined as a student’s vertical scale score in Year 2 minus the student’s vertical scale score in Year 1. An average VSG value for each campus is determined by summing the student-level VSG values to the campus level and dividing by the number of students. The campus average VSG value is rounded to a whole number.

Once the average VSG for a campus is determined, it is listed with the other average VSGs of the 40 schools in the school’s comparison group. The schools are arranged from highest to lowest average VSG. If the target school falls in the top quartile and all other eligibility criteria are met, it is awarded a GPA for CI. This is calculated separately by subject.

### Calculating Average VSG\*:

$$\text{average VSG(reading)} = \frac{\text{sum of individual student VSG values for reading}}{\text{total number of students with VSG in reading}}$$

$$\text{average VSG(mathematics)} = \frac{\text{sum of individual student VSG values for mathematics}}{\text{total number of students with VSG in mathematics}}$$

\* In *Chapter 5 – Gold Performance Acknowledgments*, the formula for calculating the campus average VSG was expressed differently; however, mathematically the results are the same.

### Other information:

- *Retesters.* For students who take TAKS retest administrations in the SSI grades—grades 5 and 8 reading and mathematics—the VSG is determined using the scale score from the first administration. This is true for both Year 2 and Year 1.
- *Quartile Size.* Because there are 40 schools in a comparison group, there are usually 10 schools in each quartile. Exceptions to this occur when a group has tied average VSG values at the border between quartiles. In case of tied values at the border between Q1 and Q2 all ties are assigned a Q1 position. The number of schools in a quartile can also vary when a school in a group has too few “matched students,” and is therefore not assigned an average VSG value or a quartile.
- *Quartile Rank.* High growth values do not necessarily imply that more students are passing the TAKS. It simply evaluates the performance growth of all students regardless of whether they passed or failed.
- *Quartile Position Across Subjects.* A school’s quartile position can vary by subject. For instance, a school may be Q1 in reading, but it may be Q2 in mathematics. Quartile position is relative to the performance of the other schools in the group.
- *Quartile Position Across Groups.* A school may be Q1 for its own group and Q4 as a member of another school’s group. (However, the quartile value evaluated for a particular school is the one determined for the school’s own group.)
- *Minimum Size.* Any school with fewer than 10 matched students for a subject will not have average VSG values calculated and will not be assigned a quartile position.
- *Number of Matched Students.* The number of matched students for reading may differ from the number of matched students for mathematics.
- *Range of Vertical Scale Scores Across Grades.* The distance in vertical scale score points between the Met Standard performance levels varies across adjacent grades. Collapsing vertical scale growth across grade spans (as is done with the CI methodology) assumes students have an equal opportunity for growth as they move from grade to grade. Because CI comparison groups are based on campus type (elementary, middle, high school, multi-level), the grade spans of schools compared for CI acknowledgment are similar. Additional information about the technical characteristics of the vertical scale scores can be found online at <http://www.tea.state.tx.us/student.assessment/techdigest/>.