Procedures for Developing the TAKS–Alt Growth Measure

Modified in Spring 2011

Background

Beginning in spring 2010, Texas implemented the TAKS–Alt growth measure to assist campuses in meeting Adequate Yearly Progress (AYP) for federal reporting purposes and as a means for evaluating campuses in the state accountability system. The TAKS–Alt growth measure uses a transition table approach to describe student score changes from one year to the next year and is used to determine whether a student is On Track to Meet Standard and/or Achieve Commended Performance in the next growth target grade (grade 5, 8, or 11). The model for the TAKS–Alt growth measure is based on the assumption that a student will continue to make progress at the same rate from the current year to future grades.

The Texas Assessment of Knowledge and Skills–Alternate (TAKS–Alt) is an alternate assessment based on alternate academic achievement standards designed for students receiving special education services who meet participation requirements. TAKS–Alt is specifically designed to assess students who have significant cognitive disabilities. Unlike other statewide assessments in Texas, TAKS–Alt is not a traditional paper or multiple-choice test. The assessment involves teachers observing students as they complete state-developed assessment tasks composed of three predetermined criteria. Teachers administer the assessment tasks to the students, and then evaluate student performance based on the dimensions of the TAKS–Alt rubric. After the evaluations are complete, teachers submit the results through an online instrument where the evaluations are scored.

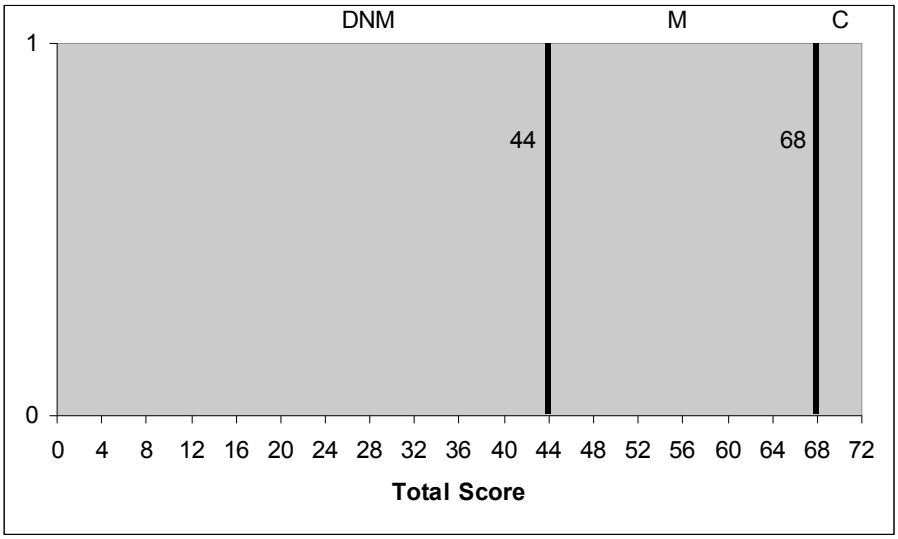
In October 2009, the Texas Education Agency (TEA) convened a group of district representatives to seek advice on the feasibility of using the TAKS–Alt growth measure. After discussion about the population of students who take TAKS–Alt and the procedures used to develop the TAKS–Alt growth measure, the group advised that the TAKS–Alt growth measure should be implemented in 2010. In addition, it was recommended that the accuracy of the growth measure be evaluated once sufficient data are available. Two years of data are needed to determine if a student is On Track to Meet Standard and/or Achieve Commended Performance and a third year of data is needed to evaluate the accuracy of the on track designation.

Procedures

The TAKS–Alt growth measure consists of two parts: 1) a student's **stage change** from the prior year to the current year, which is determined by representing the student's scores from the previous school year and the current school year in terms of the stage of performance achieved each year; and 2) a determination of whether the progress made is sufficient to designate the student as **on track** to Meet Standard and/or Achieve Commended Performance in the next growth target grade (grade 5, 8, or 11).

In order to develop the TAKS–Alt growth measure, the three performance categories (Did Not Meet, Met Standard, and Commended Performance) were divided into sublevels, or stages. Figure 1 displays the TAKS–Alt raw score scale, which ranges from 0–72 points, divided into the Did Not Meet Standard, Met Standard, and Commended Performance categories. The figure shows a line at the Met Standard cut point of 44 and a line at the Commended Performance cut point of 68. The score range of 0–43 represents the Did Not Meet Standard category; the score range of 44–67 represents the Met Standard category; and the score range of 68–72 represents the Commended Performance category.

Figure 1. TAKS–Alt Performance Categories



Note. DNM=Did Not Meet Standard, M=Met Standard, C=Commended Performance

With the three performance categories defined, they were then divided into stages. Three pieces of information were considered when subdividing the performance categories:

(1) <u>The number of points that represent meaningful change for a student taking TAKS–Alt.</u> Most stages across the performance categories were created to have a range of six raw score points. Six points on a TAKS–Alt assessment task represents full credit for the Demonstration of Skill and Level of Support dimensions of the TAKS–Alt scoring rubric. Thus, a student who earns six points for Demonstration of Skill and Level of Support successfully demonstrated all three predetermined criteria for one assessment task or completed all three predetermined criteria independently for one assessment task. Although a range of six points was reasonable for most stages, some stages were created to be larger or smaller than six points.

(2) <u>The frequency of students scoring at each score point</u>. When the 2008-2009 TAKS–Alt operational data were analyzed, the data showed that there were few students who received low scores on the assessment. As a result, the score range for the first stage was created to have a range larger than six points.

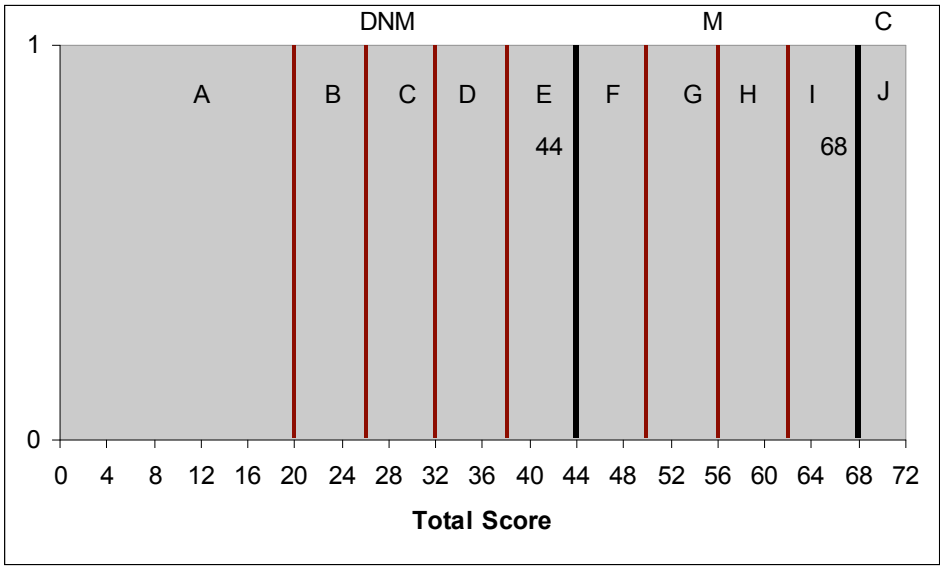
(3) The number of points within each of the performance categories. The Commended Performance category consists of only five points so this performance category was not subdivided into stages. Instead, the Commended Performance category became the last stage, and it has a range smaller than six points.

Ultimately, the three performance categories for TAKS–Alt were divided into 10 stages. The stages and their score ranges are shown below in Table 1. Figure 2 shows the three performance categories divided into the 10 stages.

Table 1. TAKS–Alt Growth Measure Stages

Performance Category	Stage	Raw Score Range
Did Not Meet Standard	A	0-19
	B	20-25
	C	26-31
	D	32-37
	E	38-43
Met Standard	F	44-49
	G	50-55
	H	56-61
	I	62-67
Commended Performance	J	68-72

Figure 2. TAKS–Alt Performance Categories Divided Into Stages



Note. DNM=Did Not Meet Standard, M=Met Standard, C=Commended Performance

Once the stages were created, the stage change and on track components of the growth measure were developed. To determine the grades and subjects for

which the growth measure could be reported, an implementation plan was developed. For the growth measure to be implemented, two years of data no more than two years apart is required. Based on these criteria, the grades and subjects for which both parts of the growth measure could be implemented were determined. The implementation plan for the stage change and on track components of the TAKS–Alt growth measure can be found in Table 2 and Table 3.

Table 2. Stage Change Implementation Plan

TAKS–Alt Subject	Current Grade
Reading/English Language Arts	4–11
Mathematics	4–11
Science	10*–11
Social Studies	10*–11

*Grade 10 science and social studies are available in 2011. The others were available beginning in 2010.

Table 3. On Track Implementation Plan

TAKS–Alt Subject	Current Grade	Growth Target Grade
Reading/English Language Arts	4	5
	5–7	8
	8–10	11
Mathematics	4	5
	5–7	8
	8–10	11
Science*	10	11
Social Studies*	10	11

*Grade 10 science and social studies are available in 2011. The others were available beginning in 2010.

Because two years of data for assessments administered no more than two years apart are needed to report stage change and on track information, the growth measure will not be reported for all grades and subjects. In spring 2010, stage change information will be reported for grades 4–11 reading/English language arts (ELA), grades 4–11 mathematics, and grade 11 science and social studies. On track information will also be reported for grades 4–10 reading/ELA and grades 4–10 mathematics. Beginning in spring 2011, stage change and on track information will be reported for grade 10 science and social studies.

In addition to the stage change and on track components that will be reported on the Confidential Student Reports (CSRs), a stage change table is also available to describe the change in a student's raw score from the prior year to the current year. The student's current stage and previous stage are included on the CSR and can be used with the Stage Change Table to describe student score

changes in a standardized way. The TAKS–Alt stage change table has five descriptive labels: SI=Significantly Improved, I=Improved, M=Maintained, SR=Slightly Regressed, and R=Regressed. This table does not provide information about whether a student is on track to Meet Standard and/or Achieve Commended Performance in a future grade, but describes if a student is maintaining, increasing, or declining in performance over time. The stage change table and the descriptive labels are shown in Table 4.

Table 4. The TAKS–Alt Growth Measure Stage Change Table

Previous TAKS–Alt Performance		Current TAKS–Alt Performance									
		Did Not Meet Standard					Met Standard				Commended Performance
		Stage A	Stage B	Stage C	Stage D	Stage E	Stage F	Stage G	Stage H	Stage I	Stage J
Did Not Meet Standard	Stage A	**M**	**I**	**SI**	**SI**	**SI**	**SI**	**SI**	**SI**	**SI**	**SI**
	Stage B	**SR**	**M**	**I**	**SI**	**SI**	**SI**	**SI**	**SI**	**SI**	**SI**
	Stage C	**R**	**SR**	**M**	**I**	**SI**	**SI**	**SI**	**SI**	**SI**	**SI**
	Stage D	**R**	**R**	**SR**	**M**	**I**	**SI**	**SI**	**SI**	**SI**	**SI**
	Stage E	**R**	**R**	**R**	**SR**	**M**	**I**	**SI**	**SI**	**SI**	**SI**
Met Standard	Stage F	**R**	**R**	**R**	**R**	**SR**	**M**	**I**	**SI**	**SI**	**SI**
	Stage G	**R**	**R**	**R**	**R**	**R**	**SR**	**M**	**I**	**SI**	**SI**
	Stage H	**R**	**R**	**R**	**R**	**R**	**R**	**SR**	**M**	**I**	**SI**
	Stage I	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**SR**	**M**	**I**
Commended Performance	Stage J	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**SR**	**M**

Note. SI=Significantly Improved, I=Improved, M=Maintained, SR=Slightly Regressed, R=Regressed

In order to determine whether a student made enough progress to be considered On Track to Meet Standard and/or Achieve Commended Performance, on track tables were created. The on track tables show the previous year and current year stage combinations (for each grade) which will result in a student being On Track to Met Standard and/or On Track to Achieve Commended Performance. To create these tables, the number of stages a student has to move from the prior year to the current year to be considered on track was determined.

The number of stages a student has to move depends on (1) the subject area, (2) the student's current grade, (3) the student's stage in the current year, and (4) the student's stage in a previous year. The model for the TAKS–Alt growth measure is based on a student continuing to make progress at the same rate from the current year to future grades. Using the on track implementation plan found in Table 3 and the four criteria noted above, the number of stage changes needed to be On Track to Meet Standard and Achieve Commended Performance were determined for each eligible grade and subject.

For reading/ELA and mathematics, the number of stage changes needed to meet the standard was determined by taking the number of stages from the prior year stage to stage F (the stage representing the beginning of the Met Standard performance category) and dividing that number of stages by the number of years between the previous grade and the next growth target grade. When the number of stage changes needed to meet the standard in the next growth target grade did not evenly divide into the number of years a student has to meet the standard, the number of stages is rounded up to the nearest whole number causing the number of stages expected to be on track to be greater in the first year. Table 5 shows the number of stage changes needed to be On Track to Meet Standard for reading/ELA and mathematics.

Table 5. Determining The Stage Changes Needed to be On Track to Meet Standard for Reading/ELA and Mathematics

Current Grade (Growth Target Grade)	Prior Year Stage	Number of Stages between Prior Stage and Stage F	Number of Years between Prior Grade and Growth Target Grade	Number of Stages divided by Number of Years*	Stage Changes Needed to be On Track
4, 7, 10 (5, 8, 11)	A	5	2	5/2=2.5 (3)	3
	B	4		4/2=2.0	2
	C	3		3/2=1.5 (2)	2
	D	2		2/2=1.0	1
	E	1		1/2=0.5 (1)	1
5, 8 (8, 11)	A	5	4	5/4=1.25 (2)	2
	B	4		4/4=1.0	1
	C	3		3/4=0.75 (1)	1
	D	2		2/4=0.5 (1)	1
	E	1		1/4=0.25 (1)	1

6, 9 (8, 11)	A	5	3	5/3=1.67 (2)	2
	B	4		4/3=1.33 (2)	2
	C	3		3/3=1.0	1
	D	2		2/3=0.67 (1)	1
	E	1		1/3=0.33 (1)	1

* The number of stages resulting from the calculation is rounded up to the nearest whole number.

The number of stage changes needed to achieve commended performance for reading/ELA and mathematics was determined by taking the number of stages from the prior year stage to stage J (the stage representing the Commended Performance category) and dividing that number of stages by the number of years between the previous grade and the next growth target grade. When the number of stage changes needed to achieve commended performance in the next growth target grade did not evenly divide into the number of years a student has to achieve commended performance, the number of stages is rounded up to the nearest whole number causing the number of stages expected to be on track to be greater in the first year. However, a student in the Did Not Meet Standard category in the current year cannot be on track to achieve commended performance. Thus, if the number of stages between the prior stage and stage F (column 3 in Table 6) is greater than the number of stages resulting from the calculation described above (column 6 in Table 6), the student must have moved the greater number of stages from the prior year to the current year (so that she reached Met Standard in the current year) to be considered on track.

Table 6 shows the number of stage changes needed to be On Track to Achieve Commended Performance for reading/ELA and mathematics. The shading in Table 6 results from the comparison of the values in column 3 (Number of Stages between Prior Stage and Stage F) and column 6 (Number of Stages to J divided by Number of Years). The shading indicates that the student must have moved this number of stages to be considered on track. The shaded values are also located in the last column of the table (Stage Changes Needed to be On Track). Values in column 3 are shaded if they are greater than the values in column 6. Values in column 6 are shaded if they are greater than or equal to the values in column 3.

Table 6. Determining The Stage Changes Needed to be On Track to Achieve Commended Performance for Reading/ELA and Mathematics

Current Grade (Growth Target Grade)	Prior Year Stage	Number of Stages between Prior Stage and Stage F	Number of Stages between Prior Stage and Stage J	Number of Years between Prior Grade and Growth Target Grade	Number of Stages to J divided by Number of Years*	Stage Changes Needed to be On Track
4, 7, 10 (5, 8, 11)	A	5	9	2	9/2=4.5 (5)	5
	B	4	8		8/2=4.0	4
	C	3	7		7/2=3.5 (4)	4
	D	2	6		6/2=3.0	3
	E	1	5		5/2=2.5 (3)	3
	F	–	4		4/2=2.0	2
	G	–	3		3/2=1.5 (2)	2

	H	–	2		2/2=1.0	1
	I	–	1		1/2=0.5 (1)	1
5, 8 (8, 11)	A	5	9	4	9/4=2.25 (3)	5
	B	4	8		8/4=2.0	4
	C	3	7		7/4=1.75 (2)	3
	D	2	6		6/4=1.5 (2)	2
	E	1	5		5/4=1.25 (2)	2
	F	–	4		4/4=1.0	1
	G	–	3		3/4=0.75 (1)	1
	H	–	2		2/4=0.5 (1)	1
	I	–	1		1/4=0.25 (1)	1
6, 9 (8, 11)	A	5	9	3	9/3=3.0	5
	B	4	8		8/3=2.67 (3)	4
	C	3	7		7/3=2.33 (3)	3
	D	2	6		6/3=2.0	2
	E	1	5		5/3=1.67 (2)	2
	F	–	4		4/3=1.33 (2)	2
	G	–	3		3/3=1.0	1
	H	–	2		2/3=0.67 (1)	1
	I	–	1		1/3=0.33 (1)	1

* The number of stages resulting from the calculation is rounded up to the nearest whole number.

On track tables were also created for science and social studies, and the number of stage changes needed to be On Track to Meet Standard and Achieve Commended Performance were also determined. The number of stage changes needed to meet the standard for science and social studies was determined by taking the number of stages from the prior year (which is two years away, grade 8 to grade 10) stage to stage F (the stage representing the beginning of the Met Standard performance category) and dividing that number of stages by the number of years between the previous grade and the next growth target grade. Then, because there are two years between grades 8 and 10, that value is multiplied by two. When the number of stage changes needed to meet the standard in the next growth target grade did not evenly divide and multiply into the number of years a student has to meet the standard, the number of stages is rounded up to the nearest whole number causing the number of stages expected to be on track to be greater in the first year. Table 7 shows the number of stage changes needed to be On Track to Meet Standard for science and social studies.

Table 7. Determining The Stage Changes Needed to be On Track to Meet Standard for Science and Social Studies					
Current Grade (Growth Target Grade)	**Prior Year Stage**	**Number of Stages between Prior Stage and Stage F**	**Number of Years between Prior Grade* and Growth Target Grade**	**Number of Stages divided by Number of Years multiplied by 2 years (from grade 8 to 10)****	**Stage Changes Needed to be On Track**
10 (11)	A	5	3	(5/3)*2=3.33 (4)	4
	B	4		(4/3)*2=2.67 (3)	3
	C	3		(3/3)*2=2.0	2
	D	2		(2/3)*2=1.33 (2)	2
	E	1		(1/3)*2=0.67 (1)	1

*Prior grade for science and social studies is grade 8.
**The number of stages resulting from the calculation is rounded up to the nearest whole number.

The number of stage changes needed to achieve commended performance for science and social studies was determined by taking the number of stages from the prior year (which is two years away, grade 8 to grade 10) stage to stage J (the stage representing the Commended Performance category) and dividing that number of stages by the number of years between the previous grade and the next growth target grade. Then because there are two years between grades 8 and 10, that value is multiplied by two. When the number of stage changes needed to achieve commended performance in the next growth target grade did not evenly divide and multiply into the number of years a student has to achieve commended performance, the number of stages is rounded up to the nearest whole number causing the number of stages expected to be on track to be greater in the first year. However, a student in the Did Not Meet Standard category in the current year cannot be on track to achieve commended performance. Thus, if the number of stages between the prior stage and stage F (column 3 in Table 8) is greater than the number of stages resulting from the calculation described above (column 6 in Table 8), the student must have moved the greater number of stages from the prior year to the current year (so that she reached Met Standard in the current year) to be considered on track.

Table 8 shows the number of stage changes needed to be On Track to Achieve Commended Performance for science and social studies. The shading in Table 8 results from the comparison of the values in column 3 (Number of Stages between Prior Stage and Stage F) and column 6 (Number of Stages to J divided by Number of Years). The shading indicates that the student must have moved this number of stages to be considered on track. The shaded values are also located in the last column of the table (Stage Changes Needed to be On Track). Values in column 3 are shaded if they are greater than the values in column 6.

Values in column 6 are shaded if they are greater than or equal to the values in column 3.

Table 8. Determining The Stage Changes Needed to be On Track to Achieve Commended Performance for Science and Social Studies

Current Grade (Growth Target Grade)	Prior Year Stage	Number of Stages between Prior Stage and Stage F	Number of Stages between Prior Stage and Stage J	Number of Years between Prior Grade* and Growth Target Grade	Number of Stages to J divided by Number of Years multiplied by 2 years (from grade 8 to 10)**	Stage Changes Needed to be On Track
10 (11)	A	5	9	3	(9/3)*2=6.0	6
	B	4	8		(8/3)*2=5.33 (6)	6
	C	3	7		(7/3)*2=4.67 (5)	5
	D	2	6		(6/3)*2=4.0	4
	E	1	5		(5/3)*2=3.33 (4)	4
	F	–	4		(4/3)*2=2.67 (5)	3
	G	–	3		(3/3)*2=2.0	2
	H	–	2		(2/3)*2=1.33 (2)	2
	I	–	1		(1/3)*2=0.67 (1)	1

*Prior grade for science and social studies is grade 8.
**The number of stages resulting from the calculation is rounded up to the nearest whole number.

On Track Accuracy

After the TAKS–Alt growth measure is implemented, the final step of the process will be to evaluate the accuracy of the on track designations for Met Standard and Commended Performance. To determine the accuracy of the on track designations, the on track information which indicates whether the student is on track to Meet Standard and/or Achieve Commended Performance will be compared to the observed results which indicate whether the student actually met the standard or achieved commended performance. TEA will conduct annual evaluations of the on track accuracy of the TAKS–Alt growth measure for every grade and subject in which on track information is reported.

Summary

The TAKS–Alt growth measure was implemented in spring 2010. The measure was used to assist campuses in meeting AYP for federal reporting purposes and as a means to evaluate campuses in the state accountability system. The TAKS–Alt growth measure describes student score changes from one year to the next year and is used to determine whether a student is On Track to Meet Standard and/or Achieve Commended Performance in the next growth target grade (grade 5, 8, or 11). In spring 2010, stage change information was reported for grades 4–11 reading/English language arts (ELA), grades 4–11 mathematics, and grade 11 science and social studies. Also in 2010, on track information was reported for grades 4–10 reading/ELA and grades 4–10 mathematics. In addition to the stage change and on track components, a stage change table is also available to describe a student's stage change from year to year.