



Arizona State Board of Education  
Technical Advisory Committee

**NOTICE OF PUBLIC MEETING**

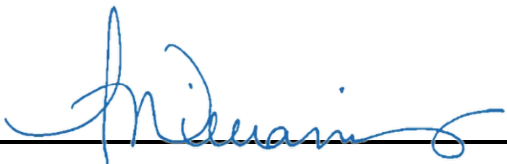
Pursuant to Arizona Revised Statutes (A.R.S.) § 38-431.02, notice is hereby given to members of the State Board of Education Technical Advisory Committee (the "Committee"), and to the general public, that the Committee will hold a meeting open to the public on **Friday, January 19, 2018, at 2:00 PM, at the Arizona Department of Education, Room 122, 1535 W. Jefferson, Phoenix, Arizona 85007**. A copy of the agenda is attached. The Committee reserves the right to change the order of items on the agenda, with the exception of public hearings. One or more Committee members may participate telephonically.

Pursuant to A.R.S. § 38-431.02(H), the Committee may discuss and take action concerning any matter listed on the agenda.

Pursuant to A.R.S. § 38-431.03(A)(3), the Committee may vote to convene in executive session, which will not be open to the public, for legal advice concerning any item on the agenda.

Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting the State Board Office at (602) 542-5057. Requests should be made as early as possible to allow time to arrange the accommodation.

DATED AND POSTED this 17th day of January, 2018

By: 

Alicia Williams  
Executive Director  
(602) 542-5057

**AGENDA**  
TECHNICAL ADVISORY COMMITTEE  
Friday, January 19, 2018  
2:00 PM  
Arizona Department of Education, Room 122  
1535 W. Jefferson  
Phoenix, AZ 85007

2:00 PM CALL TO ORDER AND ROLL CALL

1. CALL TO THE PUBLIC: This is the time for the public to comment. Members of the Committee may not discuss items that are not specifically identified on the agenda. Therefore, pursuant to A.R.S. 38-431.01(H), action taken as a result of public comment will be limited to directing staff to study the matter, responding to any criticism or scheduling the matter for further consideration and decision at a later date.
2. Presentation, discussion and possible action on the Technical Advisory Committee's recommendations to the State Board of Education including:
  - a. "Ceiling Effect" on the Student Growth to Target (SGT) side of the growth measure, in regard to rewarding students as "Excelling Target"
  - b. Changing the denominator of the K-8 Acceleration measure to "points eligible"
  - c. Lowering the n-count of the English Language Learner measure
  - d. Utilizing the hybrid model for non-typical grade configurations and determining how to prorate schools with a score of "Not Rated" (NR)
3. FUTURE MEETING DATES AND ITEMS FOR FUTURE AGENDAS. The Executive Director or a member of the Committee may discuss future meeting dates and direct staff to place matters on a future agenda.

Adjourn

## Growth Analysis

On Dec 4, 2017 the Arizona State Board of Education requested the Accountability Technical Advisory Committee to investigate the following:

Currently, an SGT ceiling effect related to students with an SGT of 89 or higher as presently the business rule indicates that the student can only receive credit for being “At/Near Target” as opposed to “Exceeds Target”. A solution for this may be to change the business rule to give all students who meet the 89 or higher SGT credit for “Exceeds Target”. This is similar to giving full points for having a 90% or higher graduation rate.

In the A-F business rules, a student’s SGP (Student Growth Percentile) is compared to their SGT (Student Growth Target) and schools are awarded points based upon the relationship between these two variables. The three categories are listed below:

SGP is < SGT by more than 10 percentile points	Below Target
SGP is within + or – 10 percentile points of SGT	At or Near Target
SGP is > SGT by more than 10 percentile points	Exceeds Target

The final category (SGP is greater than SGT by more than 10 percentile points) is hindered by a ceiling effect that impacts student test records with SGTs of 89 or higher who earn an SGP of 89 or higher. These test records are unable to be classified as “Exceeds Target” because it is impossible to earn an SGP higher than 99, which limits them to falling into the “At or Near Target” category.

The 2017 AzMERIT A-F statewide static file was analyzed to determine the number of students and schools impacted by this effect. This analysis assumes the business rule was applied as written as there is no SGT\_Category variable in the data set to use as confirmation. For subject area 675 (ELA), 10,695 test records across 1070 schools statewide had an SGP\_CY of 89 or higher and an SGT\_CY of greater than or equal to 89. Each of these schools had a range of 1 to 128 test records impacted. For subject area 677 (Math), 8,515 test records across 1129 schools had an SGP\_CY of 89 or higher and an SGT\_CY of greater than or equal to 89. Each of these schools had a range of 1 to 109 test records impacted.

Table 1: Summary of Potential Ceiling Effect Test Records

Subject	Number of Test Records	Number of Schools Overall	Number of Schools with more than 20 test records impacted
675 (ELA)	10,695	1,070	143
677 (Math)	8,515	1,129	112

The following chart was extracted from the business rules document and demonstrates the amount of points students earn in the model based upon prior-year achievement level. A student who was minimally proficient in the prior year can earn 2 points for Exceeding the Target in the current year.

Current-Year Student Growth Target			
Prior-Year Achievement Level	Weights		
Highly Proficient (HP)	0	0.50	1.00
Proficient (P)	0	0.70	1.20
Partially Proficient (PP)	0	0.90	1.80
Minimally Proficient (MP)	0	1.00	2.00
	<10 percentile points of target	+/- 10 percentile points of target	>10 percentile points of target
	Below Target	At or Near Target	Exceeds Target

Table 2: Student Test Record Analysis by Prior Year Performance Level

Subject			Frequency	Percent
675 (ELA)	Valid	1 – MP	9884	92.4
		2 – PP	721	6.7
		3 – P	90	.8
		Total	10695	100.0
677 (Math)	Valid	1 – MP	7755	91.1
		2 – PP	712	8.4
		3 - P	48	.6
		Total	8515	100.0

Table 2 displays the Prior Year Performance levels of the selected test records. If the business rules were changed to re-classify the SGP of 89 and higher and an SGT of greater than or equal to 89 scores as “Exceeds Target” instead of “At or Near Target”, 92.4% of the records would earn 2.00 points for Growth Target weight in subject 675 (ELA) and 91.1% of the records in subject 677 (Math).

Further analysis was completed to determine the percentage of overall test records with SGP and SGT data available that the affected test records represented within a school. This analysis was limited to schools with a minimum N size of 20 students per content area (ELA or Math).

Table 3: Percentage by School of Overall Test Records with SGP/SGT Data impacted by ceiling effect

<b>Subject</b>	<b>Range of Percentages</b>	<b>Median</b>	<b>Mean</b>
675 (ELA)	.1% to 20%	1.3%	2.1%
677 (Math)	.1% to 22.2%	1.1%	1.9%

As shown in table 3, up to 20% for 675 (ELA) and 22.2% of 677 (Math) records within a school are impacted by the ceiling effect. Schools with smaller student populations see the higher percentages.

#### Discussion

This data presents the results of analyzing student data surrounding test results for the highest SGT and SGP students. In all cases changing the business rule to allow these student records to be categorized as “Exceeds Target” instead of “At or Near Target” would result in higher weighted point assignments for the SGT categories.

## Arizona A to F Letter Grade - Accelerated Readiness K-8

The displayed *Accelerated Readiness* table (Table 1) modified from the *A to F Business Rules* to clarify how points are earned. The size and grade configuration of schools may have numerous ways of earning the full 10 points possible or may have very few options in the overall letter grade calculation. All schools with less than 20 FAY students tested (43 schools) are not rated with a letter grade and cannot calculate the *Acceleration Readiness* points due to n-count less than 20. The 43 schools are not included in this analysis.

It appears that the Ad Hoc Committee and the Accountability Advisory Group took into consideration that there are a wide variety of schools of different sizes and grade configurations. The design of the *Acceleration Readiness* provides schools multiple ways of earning the points. Providing multiple ways of earning the points includes possible data points so that smaller schools could be eligible for the 10 points for *Acceleration Readiness*.

Table 1: Further details of the areas for Accelerated Readiness points based on the table in the *A to F Business Rules 12.4.17* page20.

Metric	N-size of 20 or more FAY students to be eligible	Points Available to Earn	Type of Schools that may or may not be eligible for points
<b>Grades 5, 6, 7, 8 HS EOC Math</b>	No minimum n-count to be eligible.	5	All schools with grades 5-8. Very few K-5, K-6 schools, if any, will have students in EOC courses and will never meet this metric. Some schools that serve grades 7 and/or 8 may not be eligible.
<b>Grade 3 ELA Minimally Proficient</b>	Schools with 20 or more students tested enrolled FAY in third grade.	5	All schools that do not serve grade 3 are not eligible.
<b>Chronic Absenteeism</b>	Schools with 20 or more students enrolled FAY in all grade levels served.	2	All Schools have this metric.
<b>Subgroup Improvement</b>	By subgroup <ul style="list-style-type: none"> <li>• 7 ethnicity groups</li> <li>• ELL</li> <li>• SPED</li> <li>• FRL</li> </ul> Total of 20 points possible; 10 points ELA and 10 points Math for large schools with much diversity	2 points per subgroup up to 6 points total (total of 40 points possible but limited to 6 points maximum)	Small schools with less than 34 FAY tested students may not be eligible due to <20 n-count in each subgroup.
<b>Special Education Inclusion</b>	Schools with 20 or more students enrolled FAY in all grade levels served.	2	All schools have this metric.

The following tables show the distribution of school letter grades by points possible for each of the *Acceleration Readiness* areas. Schools with less than 20 FAY students tested are not included. Schools with less than 20 students are not rated for a letter grade.

In Table 2 (*EOC Math*), 673 schools are not eligible for the 5 points because schools do not serve grades 5 through 8 or schools do not have students in grades 5, 6, and 7 enrolled in *EOC Math* classes. The available data from the ADE does not provide the number of students enrolled in *EOC Math* classes so the assumption in this table is that all schools that serves up to grade 7 do not have students enrolled in *EOC math* courses. The 5 points are all or nothing in this area.

Table 2

EOC Math - Distribution of Schools by Letter Grade							
Points Possible	A	B	C	D	F	NR	# of Schools
0	150	254	183	55	9	22	673
5	94	246	240	121	37	12	750
Schools	244	500	423	176	46	34	1423

Table 3, *Grade 3 ELA Minimally Proficient (MP) Decrease*, shows the distribution of schools by letter grade and points possible. Schools that do serve grade 3 students are not eligible for the five possible points. In addition, some schools that do serve grade 3 are not eligible because the n-count is less than 20.

Table 3

Grade 3 ELA MP Decrease - Distribution of Schools by Letter Grade							
Points Possible	A	B	C	D	F	NR	# of Schools
0	32	78	98	56	18	2	284
5	212	422	325	120	28	32	1139
Total Schools	244	500	423	176	46	34	1423

Table 4 is the first of two tables displaying *Subgroup Improvement* distributions. The maximum number of points possible for this category is six. Small schools with much diversity may not be eligible for any Subgroup Improvement Points. Small schools with more than 20 students in one ethnic category are limited to 4 points possible. The 13 not rated schools are less than 20. The schools with 0 points and with letter grades scored *Acceleration Readiness* points in other areas.

Table 4

Subgroup Improvement - Distribution of Schools by Letter Grade							
Points Possible	A	B	C	D	F	NR	# of Schools
0	1	1	2			13	17
4	9	12	16	5	4	14	60
6	234	487	405	171	42	7	1346
Total Schools	244	500	423	176	46	34	1423

Table 5, *Subgroup Improvement*, show the actual points possible for all schools if the total Subgroup points is not capped at 6. Schools that are limited to 4 points possible may be large enough to be eligible for other *Acceleration Readiness* points.

Table 5

Subgroup Improvement - Distribution of Schools by Letter Grade							
Complete Points Possible	A	B	C	D	F	NR	# of Schools
0	1	1	2			13	17
4	9	12	16	5	4	14	60
6		1					1
8	20	37	34	26	12	5	134
12	38	86	65	31	15	1	236
14	1						1
16	89	156	116	39	7	1	408
18			1				1
20	52	102	78	33	3		268
24	20	64	63	30	4		181
26			1				1
28	14	35	32	8	1		90
30				1			1
32		4	13	3			20
36		2	2				4
Total Schools	244	500	423	176	46	34	1423

### General Observations

- As explained, schools can earn up to 20 points for *Accelerated Readiness* but the limit for letter grade is 10 points.
- Large diverse schools that include grades 3 through 8 have the most options to obtain the 10 points.
- A few schools do not include grade 3 and grades 7 and 8. Very few schools offer EOC Math courses for students in grades 5 and 6.
- A few schools are limited in the *Subgroup Improvement* points.
  - Eight schools do not get *EOC Math* points and Subgroup Improvement points due to n-count and grade configuration of the schools.
  - Eleven schools do not get the *EOC Math* and *Grade 3 MP Decrease* but can get the full 6 points for *Subgroup Improvement*.
    - Actual total points possible for these 11 schools ranges from 8 to 28 but limited to 6.
    - Two of the 11 had 8 total possible *Subgroup Improvement* points.
    - Of the two schools with 8 total possible, one get the subgroup points and the other school did not.

### Overall Acceleration Readiness Points

Table 6 is a breakdown of total Acceleration Readiness points earned broken down by the size of schools. The first column is the total number of students tested. Sixty-four schools had n-counts from 20 to 49. Eight of the schools earned 0 points and three schools earned the full 10 points.



Table 6

# Tested	Number of Schools by Total Acceleration Readiness Points Earned									Total
	0 Points	2 Points	4 Points	5 Points	6 Points	7 Points	8 Points	9 Points	10 Points	
20 to 49	8	13	13	1	18		8		3	64
50 to 99	6	10	11	1	10	3	21	3	36	101
100 to 199	8	4	12	1	25	1	39	9	139	238
200 to 299	8	4	8		34	5	59	11	205	334
300 to 399	1	3	2		29	1	70	3	161	270
400 to 499	2	2	3		12		29	5	101	154
500 to 599			1		5		8	2	84	100
600 to 699			1		1	1	4	2	42	51
700 to 799					1		3		41	45
800 to 899				1	1	1	1		21	25
900 to 999							2		20	22
1000 to 1300									19	19
Total	33	36	51	4	136	12	244	35	872	1423

Table 7 is a breakdown of school size and current calculated letter grades. Sixty-four of the schools with 20 to 49 FAY tested were included in the *Acceleration Readiness* calculations. Thirty of the 64 are small enough in which the schools cannot be rated.

Table 7

# Tested	Number of Schools by Letter Grade						Total
	A	B	C	D	F	NR	
20 to 49	6	5	11	5	7	30	64
50 to 99	10	28	29	21	11	2	101
100 to 199	32	85	76	31	13	1	238
200 to 299	65	140	92	32	4	1	334
300 to 399	56	94	83	31	6		270
400 to 499	31	59	45	17	2		154
500 to 599	17	37	32	14			100
600 to 699	11	15	19	6			51
700 to 799	7	14	12	12			45
800 to 899	5	5	10	2	3		25
900 to 999	3	9	7	3			22
1000 to 1300	1	9	7	2			19
Total	244	500	423	176	46	34	1423

In the *Acceleration Readiness* category, schools could earn up to 20 points depending upon size and grade level configuration. Table 8 shows the total points that schools are eligible for in the current model in relation to the actual points earned for the final letter grade calculation. The points for *Acceleration Readiness* are limited to 10.

- Nine schools are limited to 9 points possible. The nine schools limited to 9 points possible are not rated. The number of FAY students tested of these nine schools ranges from 20 to 32.
- Another 11 schools are limited to 10 total possible points.

Table 8

Points Eligible	Acceleration Readiness Points Earned									Total
	0 Points	2 Points	4 Points	5 Points	6 Points	7 Points	8 Points	9 Points	10 Points	
9	2	5	2							9
10	2	1			3		4		1	11
13	4	5	10	2	8		1	3	7	40
14	3	2	1							6
15	12	11	24	2	85	3	155	23	550	865
18	2	4	3		6	1	1	1	2	20
20	8	8	10		32	7	78	6	270	419
Total	33	36	50	4	134	11	239	33	830	1370

Schools that are eligible for 10 points or more can earn the full 10 points for *Acceleration Readiness*. Initial observations seems to indicate that the larger the school and the more diverse the school population the more likely that the school will earn the full 10 points. All schools with 34 or more students FAY tested on the AzMERIT are eligible for the 10 points in the current 2017 letter grade model.

Table 9

Number of Schools by Total Acceleration Points Possible by Letter Grade							
Points Possible	A	B	C	D	F	NR	Total
10	2	2	3	2		2	11
13	7	8	10	3	3	9	40
14			2			4	6
15	167	318	252	100	24	4	865
18	2	4	6	2	1	5	20
20	54	152	131	63	18	1	419
Total	232	484	404	170	46	25	1361

## Recommendation

Investigate additional data points that can be included in the *Acceleration Readiness* calculation. It seems that the work of the Ad Hoc Committed and the Accountability Advisory included additional areas so that all schools could earn points in this category. *Chronic Absenteeism* and *Special Education Inclusion* were added to the *Acceleration Readiness* category as ways that schools could earn points through metrics that are not tied to a single assessment. Are there additional metrics that could be included so that the nine schools limited to 9 points could be eligible for the full 10 points for *Acceleration Readiness* and increase the number of possible ways that schools could get the 10 points?

Applying a denominator based upon the total points possible for a school does not benefit the nine schools that are eligible for the 9 points maximum for those schools. Noting that *EOC* and *Grade 3*

points are all or nothing, the denominator does not work for those two metrics. All schools are eligible for *Chronic Absenteeism* and *Special Education Inclusion* and the two points available for each are all or nothing. A denominator applied within the *Subgroup Improvement* calculation does not work such that the total points possible for this metric is 6. When applying a denominator based on the total points possible for a school multiplied by 6, the number of schools that could earn the full 6 points possible decreases. Adding additional metrics to earn *Acceleration Readiness* points that can include all schools appears to be the best direction.

## Lowering the N-Count of the English Language Learner Measure

### Data Calculations:

Versions 3.1 of the data files for K-8 and 9-12, provided by the Arizona Department of Education on 12/14/17, were used for these calculations.

### Findings:

Table 1. Number of K-8 and High Schools with English Language Learner Full Academic Year Student Count of 11 through 19 Students

Number of FAY ELL Students	Number of K-8 Schools	Number of High Schools	Total Number of Schools
11	27	9	36
12	31	5	36
13	29	4	33
14	25	5	30
15	17	4	21
16	22	2	24
17	24	4	28
18	17	2	19
19	25	4	29
<b>Totals</b>	<b>217</b>	<b>39</b>	<b>256</b>

Table 2.

Preliminary Letter Grades of K-8 Schools with English Language Learner Full Academic Year N-Count between 19 and 11

Preliminary Letter Grade ELL FAY Students	A	B	C	D	F	Not Rated (NR)	Total Number of Schools
19	3	10	9	2	1		25
18	3	7	3	2		2	17
17	4	11	6	1	1	1	24
16	2	7	4	8	1		22
15	4	6	1	4	2		17
14	2	12	3	5	3		25
13	6	15	5		2	1	29
12	5	13	10	3			31
11	11	10	4	2			27
Total Number of Schools	40	91	45	27	10	4	217

Table 3.

Preliminary Letter Grades of 9-12 Schools with English Language Learner Full Academic Year N-Count between 19 and 11

Preliminary Letter Grade ELL FAY Students	A	B	C	D	F	Not Rated (NR)	Total Number of Schools
19		1	3				4
18		1	1				2
17		1	2	1			4
16		1	1				2
15		2			1	1	4
14			4			1	5
13		2	1			1	4
12	1	2	2				5
11	1	3	3		2		9
Total Number of Schools	2	13	17	1	3	3	39

Table 4. Illustrative Examples of Reducing the N-Count to  $\geq 15$  for the English Language Learner Measure on Points Earned

Impact Illustrative Schools	Current Points Eligible	Current Points Earned	Preliminary Letter Grade	Points Eligible if ELL $\geq 15$	Points Eligible if ELL $\geq 15$	Impact on Letter Grade*
K-8 X	90	83	A	100	93	?A
K-8 Y	90	75	B	100	85	?B
K-8 Z	90	42	F	100	44	?F
9-12 XX	70	26	F	80	34	?D
9-12 YY	90	67	B	100	76	?B
9-12 ZZ	0		NR	?	?	?

\*There are too many outstanding questions to meaningfully make a prediction on a school’s revised letter grade. See discussion below.

**Discussion:**

The weighting of English Language Learner proficiency and growth indicator is 10% of each framework.

When discussing n-count for the other measures, the Technical Advisory Committee cited multiple technical reasons not to lower the number of students used for a school to be eligible to earn points for a measure. The technical reasons mentioned, but are not limited to:

Several TAC members have expressed concern that:

1. There are methodological and statistical concerns about the stability of using N-counts less than 20.
2. That focusing on N-count detracts from bigger methodological concerns regarding calculation of Growth, conditional standard error of measurement, cut scores, and random error.

A lower N-count results in a wider margin of error. Even descriptive statistics such as mean and median become more uncertain. (*Student Number Count (N-count) Issues within the A-F Accountability Plan and Business Rules*, report for the TAC meeting, 11/28/2017)

and

Pages 2 and 3 in the Technical Advisory Committee December 4, 2017, Report to the State Board of Education, [https://azsbe.az.gov/sites/default/files/media/Item%204A5%20-%20TAC%20Report\\_0.pdf](https://azsbe.az.gov/sites/default/files/media/Item%204A5%20-%20TAC%20Report_0.pdf) The Technical Advisory Committee cautioned the State Board of Education, “TAC members have expressed that lowering the n-count results in achievement profile framework calculations that are subject to instability of the system. It will be uncertain if

year-to-year fluctuations in a school's letter grade are due to the work of the school or instability of the framework calculation(s)."

The aforementioned reasons do not change for calculation of the English Language Learner measure.

Further, it is not prudent to expend resources to "model" what a school's letter grade would be IF the ELL n-count were lowered when there are outstanding contingencies in refining the A-F Frameworks. Some of the work still in-progress is:

- ADE recalculating cut scores before bonus points are added
- SBE TAC member Guyer's work on a hybrid model for schools with non-typical grade configurations
- TAC discussion of a possible "ceiling effect" with SGT, as well as corrected SGT data as of 1/8/18
- TAC discussion of possibly changing certain denominators in the Acceleration/Readiness measure

## Review of the Hybrid Model for Non-Typical Grade Configurations

Rick Guyer, PhD

### Overview

There were 108 schools in Arizona that received two letter grades using the A-F accountability model. A hybrid model was proposed that merged the K-8 and 9-12 A-F letter grades with the following specifications:

- A. Schools without Grade 12 adopt the K-8 model (**Merge to K-8**)
- B. Schools that include Grade 12 but begin with the 5<sup>th</sup> grade or higher adopt the 9-12 model (**Merge to 9-12**)
- C. Schools with Grades K/1/2/3/4 to 12 use both K-8 and 9-12 models (**Prorate K-8 and 9-12 grades using FAY enrollment**)
  1. Schools with one grade and an NR adopt Model A or B as appropriate (Merge to Grade available)

There were 7 schools merged to the K-8 model, 55 that merged to the 9-12 model, and 46 prorated using FAY enrollment.

### Missing Data

The hybrid method provides a data consolidation method to estimate an A-F letter grade when some of the K-8 and/or 9-12 data would otherwise be missing. The merged proficiency and growth scores only require 20 FAY students to meet the A-F sample requirements.

### Estimation of Models A and B

**Obtain a single growth score:** The ELA and Math SGP and SGT scores were combined for K-8 and 9-12 using the SGP and SGT FAY enrollments. Required complete data for K-8 and/or 9-12.

*Result.* Growth scores were out of 50 (Model A) or 20 (Model B) possible points.

**Obtain a single proficiency score:** The “proficiencyrate” variable and proficiency FAY enrollments were used to merge proficiency scores across K-8 and 9-12 students. Proficiency rate was comparatively the most equitable from K-8 (three years factored into proficiency) to 9-12 (prior year only).

*Result.* Proficiency data from K-8 and/or 9-12 merged into a score out of 30 (scores above 30 truncated).

### Model Estimation

Estimate Model A. Merged growth (50), merged proficiency (30), ELL Proficiency and Growth (10)\*, and Acceleration and Readiness indicators (10). Requisite: 80 points.



*or*

Estimate Model B. Merged growth (20), merged proficiency (30), ELL Proficiency and Growth (10)\*, Graduation Rate (20), and College and Career Readiness (20). Requisite: 50 points.

\*No school qualified for an ELL merger due to low FAY N (variable "TotalNumberELFayStudents").

### **Model C. Prorate scores**

The K-8 and 9-12 Proficiency FAY counts were used with the K-8 and 9-12 percent points earned in the A-F model to calculate a weighted percentage.

#### **Model C.1**

If a combined school is rated on the K-8 or 9-12 models only, proficiency, growth, and ELL scores (as available) are merged to calculate a letter grade. The A-F letter grade utilizes the merged proficiency, growth, and ELL measures along with the model-specific measures for the configuration that received a letter grade in the calculation process.

This proposed method would use all available data to provide the most appropriate letter grade. It effectively requires adopting Model A or B when one configuration does not provide sufficient data to estimate a letter grade.

### **Results**

The Arizona Department of Education (ADE) provided the TAC with complete and corrected SGP and SGT cell values. Dr. Fletcher of the ADE discussed the SGT calculation during the December 4<sup>th</sup> board meeting during Agenda item 4A4 (see Pages 196 and 221 of the Agenda).

The new data files were in response to:

- 1) SGT calculation
- 2) Missing SGP and SGT cell data due to low FAY count

SGP and SGT scores were re-calculated by the author to update the grades for merger into the hybrid/prorate models.

Letter grades were re-calculated for the models below. These grades are preliminary and do not include the results of the additional modeling performed by the TAC. Grade results show the effects of the merge versus prorate methods.

**Hybrid Model:  
Preliminary Results**

Table 1. Merge to K-8 Preliminary Results

<b>Schools</b>	<b>Current K-8</b>	<b>Current 9-12</b>	<b>Prelim. Hybrid</b>	<b>Comparison Prorated</b>
1	NR	NR	NR	NR
1	C	NR	B*	NR
2	F	NR	F	NR
1	B	C	B	B
1	C	B	B	B
1	B	A	A	A

\*Increased 9-12 proficiency raised grade

Table 2. Merge to 9-12 Preliminary Results

<b>Schools</b>	<b>Current K-8</b>	<b>Current 9-12</b>	<b>Prelim. Hybrid</b>	<b>Comparison Prorated</b>
4	NR	NR	NR – 3 F – 1	NR
2	NR	C	C	NR
2	NR	B	B	NR
1	C	NR	C	NR
1	F	B	B	C
1	F	C	C	D
2	D	B	B	B – 1 C – 1
1	C	A	B	B
4	C	A	A	B – 3 A – 1
1	F	F	F	F
3	F	D	D	D
2	D	D	D – 1 C – 1	D
4	D	C	C	C
2	C	C	C	C
1	B	C	B	B
1	B	C	C	C
7	C	B	B	B
3	B	B	B	B
2	A	B	B	B
7	B	A	A	A
4	A	A	A	A

Table 3. Preliminary Results for Prorated Schools

<b>Schools</b>	<b>Current K-8</b>	<b>Current 9-12</b>	<b>Prorated Grade 9-12 Cuts</b>	<b>Hybrid Merge K-8 Cuts</b>
11	NR	NR	NR	NR
1	A	NR		A
3	B	NR		B
1	C	NR		B
2	C	NR		C
1	C	NR		D
1	D	NR		D
<hr/>				
1	F	C	D	
1	B	D	C	
1	C	A	B	
1	A	C	B	
<hr/>				
1	F	F	D	
2	D	F	D	
1	D	D	D	
2	C	D	C	
1	C	C	C	
3	B	C	B – 2 C – 1	
1	C	B	C	
2	B	B	B	
2	A	B	B	
3	B	A	A – 2 B – 1	
4	A	A	A	

Table 4. School Configuration Distribution

<b>Schools</b>	<b>Config.</b>	<b>Model</b>
40	K to 12	Prorate
1	1 to 12	Prorate
1	2 to 12	Prorate
2	3 to 12	Prorate
2	4 to 12	Prorate
<hr/>		
7	5 to 12	Merge HS
20	6 to 12	Merge HS
28	7 to 12	Merge HS
<hr/>		
1	K to 10	Merge K-8
1	4 to 11	Merge K-8
1	6 to 10	Merge K-8
2	6 to 11	Merge K-8
2	7 to 11	Merge K-8

Definition of Table Variables:

**Schools:** Number of schools with the current grade profile. Different results for Hybrid and Prorate are identified in their cells.

**Current K-8:** Current letter grade for the K-8 model

**Current 9-12:** Current letter grade for the 9-12 model

**Prelim. Hybrid:** Hybrid model fit using merged proficiency and growth. Grade determined using cutscores appropriate to the model merged into.

**Comparison Prorated:** K-8 and 9-12 percent of points earned prorated using proficiency FAY student counts. Grade determined using appropriate cutscores.

**Grade 9-12 Cuts:** Letter grade determined using the 9-12 model cutscores

**Hybrid Merge K-8 Cuts:** Letter grade using the K-8 model cutscores for schools with 9-12 grade missing and Model A adopted.