Guide to the Comprehensive Accountability System (UCAS) Framework

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With the passage of state statute 53A-1-1101-1113 in March 2011, efforts began to develop a new comprehensive accountability system (CAS). The USOE assembled a committee of policy makers, education leaders, and stakeholders from across the state. The committee was charged to develop a single comprehensive accountability system for Utah's schools which incorporated the following design principles:

1. Promote progress toward and achievement of college and career readiness
2. Value both meeting standards (proficiency) and improving academic achievement (growth)
3. All schools, including those that serve traditionally low performing students, should have an opportunity to demonstrate success
4. Strong incentives for schools to improve achievement for the lowest performing students
5. Growth expectations for non-proficient students should be linked to attaining proficiency
6. Growth expectations for all students, including students above proficiency, should be appropriately challenging and meaningful
7. Clear and understandable to stakeholders

The resulting accountability system provides a straightforward determination of school performance and supports the design principles by valuing performance on state tests, prioritizing individual student growth toward meaningful achievement targets, promoting equity for low performing students, and incentivizing attainment of graduation and college/career readiness.

This document serves as a guide for producing the CAS Framework using the following data sources: Criterion Referenced Tests (CRTs), Direct Writing Assessments (DWAs), the Measures of Academic Progress (MAPs) Tests from NWEA, the Utah Alternate Assessments (UAAs) and the Graduation Rate. Under the CAS framework every school can earn a total of 600 points with 300 of those total points allocated for achievement (proficiency and graduation rates for high schools). The other 300 points are allocated to growth.

Structure of the CAS Framework

All schools are graded on two key indicators: Achievement and Growth. The system consists of a total of 600 points that are evenly split between Achievement and Growth. The structure and total points associated with each indicator for elementary, middle and high schools are provided below.

Figure 1. Structure for Elementary and Middle Schools

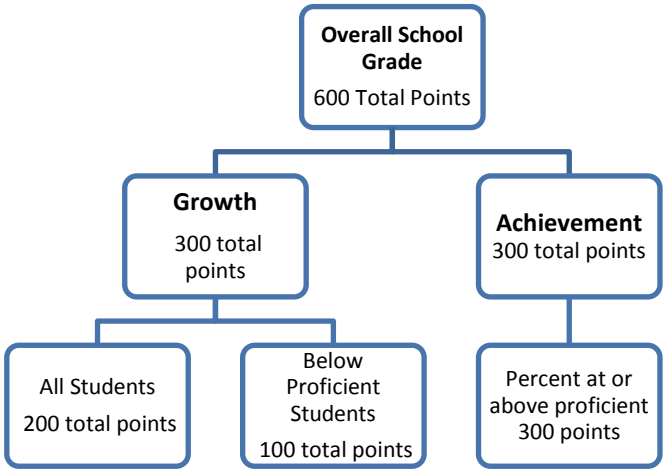
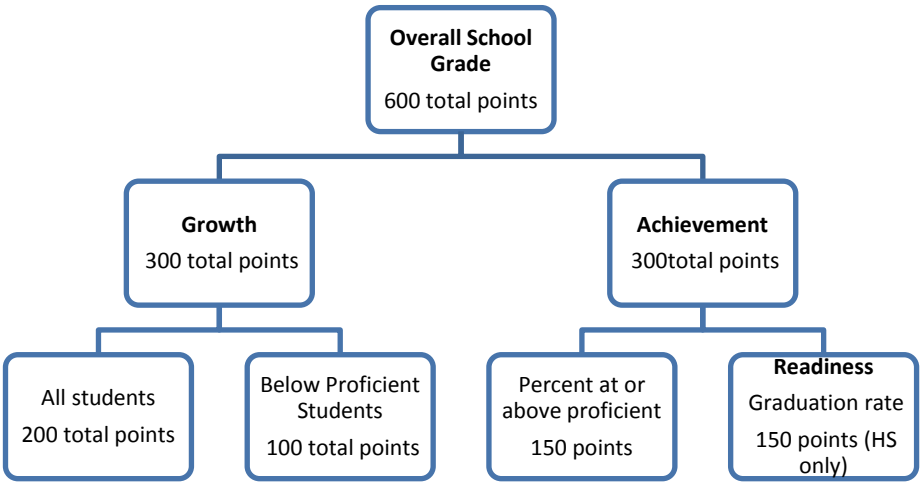


Figure 2. Structure for High Schools



As indicated in Figure 2, Achievement for high schools currently consists of proficiency on assessments and graduation rates. The points associated with readiness may change in the future when CCR assessments and course taking data are included.

This document is divided into five sections:

1. Common terms.
2. Calculation rules for the CAS framework based on Achievement and Growth.
3. Computing a total or composite score for each school.
4. Participation Rules.
5. AMO Calculation.

Section 1: Terms

Achievement – In elementary and middle schools, achievement is calculated by dividing the number of students scoring proficient or above (Levels 3 and 4) in each content area using the CRT/NWEA/UAA/DWA tests by the number of students who were enrolled at the same school for the full academic year and took each test. In high school, status consists of CRT/NWEA/UAA/DWA performance (same calculation as elementary and middle school) and the graduation rate.

Below Proficient (BP) Students – Defined as all students who achieve a score of Level 1 or Level 2 in the **prior year**. This is the only distinct group of students or subgroup evaluated under the CAS framework.

Full Academic Year – Defined as a year in which students are in membership, in the same school, for not less than160 days.

Growth – For students taking the CRTs and the MAPs tests[1], growth is defined as the median growth percentile or the median computed using all individual student growth percentiles at a given school for each content area.

For students taking the UAA tests, growth is defined by the progress score using the UPASS value tables and then translated to a NCE scale.

Indicator – A performance component with a reported grade. Utah has identified two distinct indicators that are used to evaluate all schools in the state: Growth and Achievement. Points are reported separately for each of these indicators.

N – The number of students included in the calculation of a metric for a sub-indicator and indicator.

Points – The metrics used under each sub-indicator (percent proficient and above, median student growth percentile, graduation rates) are transformed into a scale of 300 points for achievement and 300 points for growth (see Figures 1 and 2). This document describes the process for how these metrics are transformed into points.

School Level (Elementary or High School) - A school can receive an Elementary report, High School report, or both.

[1] Scores from the MAP tests are rescaled to the CRTs first before they are included in the SGP computations.

Elementary Schools

A school receives ONLY an Elementary level report if the highest grade is grade 11 or lower.

High Schools

A school receives ONLY a High School report if grade 12 represents the highest grade and grade 7 is their lowest grade.

Combination Schools

A school will be designated BOTH an Elementary School and a High School if their lowest grade offered is 6th or lower AND their highest grade offered is grade 12. These schools will be evaluated as both an Elementary School (for their lowest grade through grade 8 students) and a High School (for their 9-12 students).

Sub-indicator – The components underlying each Indicator. For example, achievement in elementary and middle schools is comprised of sub-indicators for English Language Arts (ELA), Math, Science, and the DWA. For high school, achievement is comprised of performance sub-indicators in ELA, Math, Science, DWA and a school's graduation rate.

Important notes-

Minimum N:

In accordance with the Family Educational Rights and Privacy Act (FERPA), each sub-indicator (ELA, Math, Science, DWA and graduation) requires a minimum N count in order for the data to be publicly reportable. The number of data points must also be considered when constructing a summary measure such as an average or a median; it does not make sense to do so when the number of observations is very small as inferences based on small numbers are not sufficiently reliable. The minimum N required for each sub-indicator equals 10 students.

If a school meets the minimum N count for at least one sub-indicator within a performance area, points are adjusted accordingly to ensure that 300 points are always reported for each indicator (achievement and growth).

School reports will not display total points if one the following do not meet the minimum n: all student growth, proficiency or readiness.

Full Academic Year:

Only students meeting the FAY requirement in the current year will be included in achievement and growth calculations.

Section 2: Calculating Points Earned by Indicator

As presented earlier in Figures 1 and 2, points are computed for each indicator. All sub-indicator and indicator points earned by a school are not rounded until the total points earned or the composite score is calculated. The total points earned by a school are reported and rounded to the nearest integer.

ACHIEVEMENT

For achievement, the percent proficient is calculated by subject area using CRT, MAP, UAA and DWA tests. Schools that are missing proficiency data in all 3 major content areas (Math, ELA, and Science) but have proficiency scores for DWA are not evaluated under the CAS framework. The percent proficient earned in each content area is then converted into points as described below.

Calculating Points by Content Area/Sub-Indicator

For high schools, 150 points are allocated to each content area. For example, a high school with a proficiency level of 92 % in ELA translates into 138 points (150 x .92) out of 150 possible points. If a high school has DWA scores, the points earned from the CRT/MAP/UAA tests are weighted at 2/7 of 150 points and the DWA is weighted at 1/7 of 150 points (weighted a half of one CRT or MAP). For example, if a high school has DWA scores, the points earned for achieving 50% proficiency in Math would be computed as follows: 150 x .50 (percent proficient in math) = 75 points. The weighted score for Math is: 75 x 2/7 = 21 points.

In elementary schools, a total of 300 points are awarded to each content area. If an elementary school has DWA data, the same weights (2/7 for CRT/MAP/UAA tests and 1/7 for DWA) and computations described for high schools apply. For example, if an elementary school achieved 92% proficient in ELA, the school earns 300 x .92 (92% proficient) = 276 points. The weighted score for ELA is: 276 x 2/7 = 79 points. If an elementary school does not have DWA data, the percent proficient in each CRT content area is multiplied by 300 points.

Calculating Total Proficiency Points

The total proficiency points earned by a given school are computed in one of two possible ways:

1. If a school has DWA data, points earned for proficiency are computed by summing the weighted points across all four areas (ELA, Math, Science, and DWA). If a school is missing data in one or two of the 3 major content areas (ELA, Math, and Science), the weighted points are adjusted as described in the next sub-section.

2. If a school does not have DWA data, points earned for proficiency are computed by taking the mean across points earned in ELA, Math and Science.

Additional Considerations for Calculating Proficiency

The below outlines the steps for re-distributing the weights for schools reporting DWA scores with one or more missing sub-indicators in either ELA, Math or Science. If a school does not have DWA scores, no adjustments are made for missing sub-indicators since the mean is taken across all available content areas.

1. *The school has data available for 1 content area and the DWA.*

If a school has only 1 content area available, the points earned in that content area is multiplied by the weight of 3 CRTs.

Example 1: An elementary school does not meet the minimum n for reporting math and science scores and only has ELA and DWA available for evaluating achievement.

- The elementary school has a proficiency score of 75% on the ELA test and a proficiency score of 90% on the DWA.
- For this elementary school:
  - ELA = 300 x .75 or 225
  - DWA = 300 x .9 or 270

- The weighted score for ELA = 225 x .857 (.857 reflects the total weight dedicated to all CRTs).
- The weighted score for the DWA = 270 x 1/7 (the weight of one half of one CRT). The total points earned by this elementary school for proficiency is equal to 231.

2. A school has data for 2 CRT content areas and the DWA.

If a school has only 2 CRTs available, the points of each CRT is multiplied by 3/7. The same process for calculating the points for schools with only 1 CRT applies, but in this case, the points for each subject area is multiplied by 3/7. This value represents half of the entire weight attributed to all 3 content areas (6/7).

Example 2: A middle school has ELA, Math, and DWA scores but does not have science scores.

- The middle school has proficiency score of 60% on Math, 70% on ELA and 55% on the DWA.
- Math = 300 x .6 or 180

- ELA = 300 x .7 or 210
- DWA = 300 x .55 or 165

- Translating the above points to weighted points is as follows:
- Math = 180 x 3/7 or 77.1 points
- ELA = 210 x 3/7 or 90 points
- DWA = 165 x .1429 or 23.6 points

In this example, the middle school would earn a total of 190.7 points for achievement.

Calculating CCR Points

The graduation rate represents the only CCR sub-indicator under achievement. The graduation rate represents a lagged indicator since the rate is reflective of the rate achieved in the prior year. CCR points are computed by multiplying the graduation rate by 150 points. If a school's graduation rate is equal to 65%, total points awarded for this school for CCR = 150 x .65 or 97.5 points.

For high schools, the points earned for CCR are combined with points earned for proficiency. The combined points earned by a high school for CCR and proficiency represent the total points earned by that school for achievement.

GROWTH

Calculating Growth

For the CAS framework, a student growth percentile (SGP) is computed for all students with a minimum of two CRT test or MAP scores in a given content area[2] and a growth score is calculated for all students with a current and previous year's UAA score in a given content area (see page 10). Growth is evaluated in the same way for all schools (elementary, middle and high schools). If a school has a missing sub-indicator for growth (e.g., the school has ELA and Science growth scores but does not meet the minimum n size requirement to report Math), no adjustments are made since the growth points reported is derived by taking the mean across content areas.

a. Schools with a "Below Proficient" sub-group

The growth performance for two groups in all schools are first assessed separately and then evaluated together. Group 1 consists of all students in the school and group 2 consists

[2] The specifics of calculating a student growth percentile (SGP) using the SGP Package in R is not discussed in this document.

of all below proficient students in the school. A total of 200 points is awarded for the performance of all students and an additional 100 points are awarded for below proficient performance. For each group, the median of all growth scores (SGPs and UAA transformed growth scores) are taken in each content area and evaluated using the rubric presented in Table 1.

Table 1: Rubric for Evaluating Median Growth Percentiles by Group

Median Growth Score	All Students (Maximum 200 points)	Below Proficient Students (Maximum 100 points)
0-34	50	25
35-49	100	50
50-59	150	75
60 and above	200	100

As indicated by the rubric:

- Minimum points are awarded to a school if the median growth score achieved by a given group is located below 35.
- Maximum points are awarded if the median growth score is located at 60 or above.

This rubric is used for each of the three content areas (ELA, Math, and Science) evaluated.

- Computing growth points

Example 3: The median growth performance of an elementary school for all students and below proficient students is as follows:

Group	ELA Median Growth Achieved	Math Median Growth Achieved	Science Median Growth Achieved
All Students	56	45	65
Below Proficient Students	35	55	50

Using the rubric in Table 1, the median growth score would translate into the following points earned by each group:

Group	ELA Points	Math Points	Science Points	**Mean**

All Students	150	100	200	**150**
Below Proficient Students	50	75	75	**66.66**

The total growth points earned is computed by summing the points earned by all students and below proficient students:

- Total points = 150 + 66.66 or 216.66 points.

b. Schools without a "below proficient" sub-group

For schools that do not have a sufficient number of students to report a below proficient subgroup growth score, the total points assigned to all students is adjusted to a 300 point scale. The rubric in Table 2 is used to evaluate the performance of all students at these schools:

Table 2: Rubric applied when BP group is missing

Median Growth Achieved	All Students (Maximum 200 points)
0-34	**75**
35-49	**150**
50-59	**225**
60 and above	**300**

Calculating Growth for Students with UAA Scores

Because the UAA tests only report on proficiency levels (Levels 1-4), growth for students with 2 consecutive years of UAA scores in a content area are evaluated using a value-table.

The individual value table scores are then translated to an NCE scale. The transformed UAA scores are then combined in the same data file with the SGPs earned by students taking the CRT or MAP tests. The process described earlier in this section to assign the UCAS growth points to the median growth score achieved by the below proficient students and all students is applied to the transformed UAA growth scores and SGPs.

Section 3: Computing the Total Score for a School

The total score for a school is computed by summing the points across the Status and Growth indicators. For the CAS framework, a school is only assigned a total or composite score if they have values under both indicators. For high schools, the school must have both CCR and proficiency under achievement.

One of the goals for CAS is to inform a differentiated approach for state-provided support based on school performance and need. This differentiated approach is based on the total or composite score earned by each school as noted below:

Reward schools will be identified using the composite score and the cut of 480 points for elementary and middle schools and 470 points for high schools. This structure incentivizes and rewards both achievement and growth simultaneously as they are both components of the composite score. This also provides an opportunity for all schools, independent of demographics or previous performance, the opportunity to achieve and be recognized. This establishes an achievable goal and standard for all Utah schools. These schools will be recognized annually through a press release, certificate of achievement, letters to the LEA superintendent or charter leader, and to the building principal to be shared with the school community.

Priority Schools will be identified each year using the total composite score. The lowest performing five percent of the schools will be identified. Initially, to ensure continuity and build on existing identification and improvement efforts, those schools that have already been identified as Title I School Improvement Grant (SIG) schools will be identified as Priority Schools.

Focus Schools will be the next lowest-performing ten percent of schools (excluding those Title I schools already identified as Priority Schools) based on the composite score.

Section 4: Participation Rules

The CAS requires that schools maintain a minimum level of participation for students. The participation rate is reported for two groups: below proficient students and all students. The participation rate is calculated by dividing the number of students participating in each test taken (CRT, NWEA, or UAA in ELA, Math, Science and DWA) by the number of students with a Test. A student is considered to be participating in a test if they have an answer document that is not marked as absent or excused. The participation rate for each group is rounded to the nearest integer. There will be two participation rates reported for each school: all students all tests, below proficient all tests.

If a school does not meet the participation rate of 95% either at the all students **OR** the below proficient students level, the school receives 0 points for the overall total score. On the CAS reports, schools not meeting participation will show 0 points for the total points earned. However, scores for Achievement and Growth will be reported.

The participation rate will only have an impact on a given school if the school meets the minimum n of 40 students in each group. For example, if a school does not meet the minimum n size of 40 for the below proficient group, but meets the n size requirement for the all students group, then only the participation rate for the all students group will be evaluated.

Section 5: AMO Calculation

Annual Measureable Objectives (AMOs) will be based on the percent of students achieving proficiency on the states Criterion-Referenced Tests (CRTs) separately in English language arts and mathematics.

AMO targets are set for each school and subgroup in annual equal increments toward a goal of reducing by half the percentage of students in the all-students group and in each subgroup who are not proficient within six years. The trajectory starts with the proficiency rates for 2010-11 academic year and will be reported in the school report card.