Business Rules for Calculating & Assigning 2018 Official Summative Designation

Calculating summative designations and assigning levels of support is a **4 step process**, with specific business rules at each step. This document presents all the business rules associated with the calculation and assignment of summative designations.

To the greatest extent possible, the business rules that guide the allocation of points to schools for each indicator were intended to follow these guidelines:

- If a school Meet/Exceeds the statewide long term goal, interim target or other state defined expectation for performance - assign full points (i.e., 100)
- If a school does not meet annual expectation: Assign points representing the proportion of the target achieved within the given year (1-99)
  - Percent of interim target met (e.g., academic achievement)
  - Proportion of points obtained within an "effective range" defined by a state specified maximum and minimum value
- In general, rules should be consistent in their logic and application.
- In general, business rules should not penalize small decreases in performance for schools that are performing well.
- In general, business rules should incentivize and reward improvement in schools that are performing both above and below expectations.
- If a business rule adds complexity without adding meaningful differentiation, it should not be applied unless absolutely necessary.

Step 1: Calculate School Performance Level from student performance data

1. Assign student performance data to an **Accountable School**:
   - **a.** If any student has **Private School Indicator Yes**, drop the record from the data set.
   - **b.** Determine each students' serving school of **greatest enrollment each day** (where there are multiple serving school enrollments). This becomes the **serving school of record**.
   - **c.** Next, consider the RCDTS code and category of the school of record listed as Home, Serving, and Service provider to determine the **Accountable School**.

Home	Serving	H Same/ S Diff	Service Provider	Accountable
Reg. Public School	Reg. Public School	Same	Null	Serving*
Reg. Public School	Reg. Public School	Different	Null	Serving*
Reg. Public School	Public School 3000	Different	Null	Home*
Reg. Public School	Reg. Public School	Different	Any other than Reg. Public School	Home
Reg. Public School	Reg. Public School	Different	Same as Home	Home
Reg. Public School	Any other than a Reg. Public School	Different	Any (Null or Any type)	Home
Reg. Public School	Reg. Public School	Different	Same as Serving	Serving*
Reg. Public School	Cooperative High School	Different	Any	Cooperative High School*

*** Where the student has been enrolled for "at least a half of a school year" (non-consecutive enrollment).**

- In all cases, if a student has multiple part-time enrollments, the accountable schools is the school where they are enrolled ≥ 50% of the time.

Definition of "at least half of a school year": is defined as 134 or more calendar days (non-consecutive) of total enrollment (based on mean enrollment length). It includes days of suspension, but excludes expulsion. It was determined by taking the difference between the start date and end date of all school and district calendars in the state, averaging their length, and dividing the average in half.

- In cases where a student has two enrollments greater than 134 calendar days, the student's record falls to the school with the larger days of enrollment.

- In cases where a student has two enrollments of exactly the same value, both at or above 134, the student's record falls to the school with the enrollment at the time of testing.
- If there is no accountable school that the student has been enrolled "at least a half of a school year" (non-consecutive enrollment), the student is dropped from the data set.

Why this rule?
Page 33 of the Every Student Succeed Act, Sec.1111.(c).(4).(F).(i) states that "In the case of a student who has not attended the same school within a local educational agency for at least half of a school year, the performance of such student on the indicators described in clauses (i), (ii), (iv) and (v) of subparagraph (B) –) states that "In the case of a student who has not attended the same school within a local educational agency for at least half of a school year, the performance of such student on the indicators described in clauses (i), (ii), (iv) and (v) of subparagraph (B) –

(I) may not be used in the system of meaningful differentiation of all public schools as described in subparagraph (C) for such school year; and

(II) shall be used for the purpose of reporting on the State and local educational agency report cards under subsection (h) for such school year."

What does it mean?
The numbers used to calculate summative designations and the numbers reported on report card are NEVER, by law, going to match. These rules take students who are served at entities who may or may not have report cards, or who are included at district levels on report card, and instead assigns them to an accountable school, so that they are included in the system of accountability. Finally, note the indicator (iii) e.g. high school graduation rate, is not included in this 50% enrollment requirement. For this rule, **we follow the report card guidelines that they are reported at the school that issues them their diploma**, but **then apply these rules** to ensure that students who receive diplomas from entities other than category 2/4 public schools and districts are captured.

2. Calculate the **School Performance Level** for each indicator according to the rules for that indicator:

Indicator	Rules
1-8 ELA Proficiency	A. **Number Proficient**: Sum the number of students with ELA proficiency levels of 4 or 5 on PARCC, and students with ELA Levels 3 & 4 on DLM. B. **Number Tested**: Sum the number of students with a valid score of any level. C. **Number Should Have Tested**: Sum the number of students with a valid test score or RNVTA code of 6, 10, 15, or 19. D. **Denominator**: Multiply C by .95. If D is > than the number of students with a valid score. Store as Denominator95. E. **% Proficient**: [Number proficient ÷ D (if it exists) or B (if D=null)] * 100 **Data Source: Assessment Database
1-8 Math Proficiency	A. **Number Proficient**: Sum the number of students with math proficiency levels of 4 or 5 on PARCC, and students with math Levels 3 & 4 on DLM. B. **Number Tested**: Sum the number of students with a valid score of any level.

Indicator	Rules
	C. **Number Should Have Tested**: Sum the number of students with a valid test score or RNVTA code of 6, 10, 15, or 19. D. **Denominator**: Multiply C by .95. If D is > than the number of students with a valid score. Store as Denominator95. E. **% Proficient**: [Number proficient ÷ D (if it exists) or B (if D=null)] * 100 **Data Source: Assessment Database
1-12 EL Progress to Proficiency (ELPtP)	**Identification of Students**: 1. Students should be included in this indicator in the first year they have the EL designation. If they are identified after the testing window closes then they would be included in the first year they had the designation AND an enrollment during the testing window. 2. Apply the "half a year" rule after this rule. A. **Baseline Grade**: For each student, determine the grade level of their first ACCESS score. This is their baseline grade. a. If they were identified in Pre-K or K, Baseline Grade = 1. b. If they were identified in Grade 1 or after, the grade of identification their baseline year, e.g. Grade 1 = 1, Grade 3 = 3, Grade 9 = 9. B. **Baseline Year**: For each student, store the school year they were identified and received their first ACCESS measurement (e.g. 2014-2015 SY identified in fall 2014, first ACCESS in 2015 would be recorded as 2015). C. **Proficiency Target Year**: Calculate the anticipated year in which a student is expected to reach proficiency (5 years after identification) by adding 5 to the Baseline Year, e.g. Baseline 2015 + 5 = 2020). Update the proficiency target year of the student by 1 for each year after the Baseline Year that the student does not have an enrollment in an Illinois public school that is equal to or greater than 134 calendar days. These years are considered partial years. Past a students' 5 year timeline, the proficiency target year is the current year. D. **Initial Scale Score**: First ACCESS score in grade 1 or higher. If no initial scale score can be found, use 100 (the lowest obtainable score). E. **Current Scale Score:** Most current scale score F. **Previous Scale Score:** Scale score from the year prior, if one exists. G. **Proficiency Target Scale Score**: Using the **EL Proficiency Scale Score Tables** determine the **target scale score** equivalent to a 4.8 composite proficiency level in the grade level a student is expected to be at in their proficiency target year. a. **Note:** If a student is retained, their proficiency target needs to be adjusted based off the grade level they are now anticipated to be at when taking their 6th ACCESS exam. Furthermore, if the student does not make proficiency within the 5 years, then their proficiency target will be based off of grade level. H. **Current Target Scale Score**: The target scale score equivalent to a 4.8 composite proficiency level in the grade the student is currently in. I. **Timeline Target:** Take the (Proficiency Target Scale Score – Initial Scale Score) / 5. Save as static variable Timeline Target. J. **Revised Target:** Take the (Proficiency Target Scale Score – Current Scale Score) / (Proficiency Target Year – Current Year). The denominator has a floor of 1. Save as variable Revised Target. Will be updated each year. K. **Past Timeline Target:** If student did not reach their target in 5 years the formula is then (Current Target Scale Score – Current Scale Score) L. **Gain**: The (Current Scale Score – Previous Scale Score). If this number is negative, round to zero. If a student has no test score, use 100 (which will result in a 0 or a negative).

Indicator	Rules
	M. **Progress Ratio**: Student's scale score Gain / the lower of Timeline Target or Revised Target or Past Timeline Target if past timeline **Data Source: Assessment Database
9-12 ELA Proficiency	A. **Number Proficient**: Sum the number of students with ELA proficiency levels of 3 or 4 on SAT, and students with ELA Levels 3 & 4 on DLM. B. **Number Tested**: Sum the number of students with a valid score of any level. C. **Number Should Have Tested**: Sum the number of students with a valid test score or RNVTA code of 6, 10, 15, or 19. D. **Denominator**: Multiply C by .95. If D > than the number of students with a valid score. Store as Denominator95. E. **% Proficient**: [Number proficient ÷ D (if it exists) or B (if D=null)] * 100 **Data Source: Assessment Database
9-12 Math Proficiency	A. **Number Proficient**: Sum the number of students with math proficiency levels of 3 or 4 on SAT, and students with math Levels 3 & 4 on DLM. B. **Number Tested**: Sum the number of students with a valid score of any level. C. **Number Should Have Tested**: Sum the number of students with a valid test score or RNVTA code of 6, 10, 15, or 19. D. **Denominator**: Multiply C by .95. If D > than the number of students with a valid score. Store as Denominator95. E. **% Proficient**: **[**Number proficient ÷ [D (if it exists) or B (if D=null)]**]** * 100 **Data Source: Assessment Database
High School Graduation Rate (9-12)	A. **Adjusted Cohort Graduation Rate**: Using the federal rules for calculating an **adjusted cohort graduation rate**, calculate the following: a. The 4-year adjusted cohort rate for the most recent graduating cohort (e.g. Cohort 2014 – those students who entered 9th grade for the 1st time in 2014 and whose 4-year graduation year would be 2017) b. 5-year adjusted cohort rates for the previous cohort (e.g. Cohort 2013) c. The 6-year adjusted cohort rates for the cohort previous to that (e.g. Cohort 2012) d. Note: This is the only indicator that does not follow accountable school rules for student aggregation. For this indicator, students are included in the cohort of their current home school. B. **Weighted Adjusted Cohort Graduation Rate**: **[**(Cohort_Year_4 x .60) + (Cohort_Year_5 * .30) + (Cohort_Year_6 * .1)**]** * 100 **Data Source: SIS Cohort Data.
9th Grade On-Track (9-12)	A. The cohort will consist of 1st time full time freshman defined as: a. Must be enrolled in Grade 9 on Sept 30th of the school year. b. Must not have been enrolled in Grade 9 in any previous year. c. Must still be enrolled in Grade 9 on May 1st of the school year. d. Student will be included in cohort of their accountable school. B. On track means the student: a. Attained a passing grade (A+ through D- , Satisfactory, Exceptional and Meets Standard) in courses totaling at a minimum 5 course credits. b. Did not fail (F plus U-Unsatisfactory) core courses totaling more than .5 course credits. c. Core courses have a subject area of Reading, Math, Science and Social Science.

Indicator	Rules
	d. Courses included are the completed courses from Semester 1 and 2 (S1 & S2) or Tri-Semesters 1, 2 and 3 (T1, T2 & T3). C. Course credits from summer session are not included. D. **% On-Track is calculated as**: a. ((The number of students within the school that pass courses totaling 5 or more course credits AND did not fail more than .5 course credits in core courses) / (The total number of freshmen students meeting the qualifications outlined in the cohort definition)) * 100 **b.** Apply an adjustment to schools not using a .5 credit per semester scale* (adjusting for known schools who use a 1 credit per semester scale). **Data Source: SIS Enrollments, Student Course Assignments
1-8 Growth	A. **ELA Mean Student Growth Percentile (SGP)**: For all students with an ELA SGP, take the average of the individual SGPs to determine the group Mean SGP (MSGP). B. **Math Mean Student Growth Percentile (SGP)**: For all students with a math SGP, take the average of the individual SGPs to determine the group Mean SGP (MSGP). **Data Source: Assessment Database
1-12 Chronic Absenteeism	**A. Days Present:** Number of days a student is present for the current school year, recorded in SIS enrollment records. **B. Days Excused:** Number of days, recorded in SIS enrollment records, a student is absent and the absence is excused. **C. Days Unexcused:** Number of days, recorded in SIS enrollment records, a student is absent and the absence is unexcused. **D. Counted Attendance:** In order for an enrollment to count in the numerator or denominator for a given student, (the enrollment exit date - the enrollment entrance date) needs to be less than or equal to 366 days and greater than 14 days per each enrollment. **E. Counted Student:** In order for a student to count in the numerator or denominator of Chronic Absenteeism, the total (Days Present*FTE + Days Excused*FTE + Days Unexcused*FTE) must be less than or equal to 366. **F. Rate of Absence:** Summing across all Counted Attendance records. **a.** If Rate of Absence is 10% or greater, student status is Chronically Absent. **G. Chronic Absenteeism Rate:** (Sum of Chronically Absent) ÷ (Sum of Total Students). ****FTE : Full Time Equivalency** **Data Source: SIS Enrollments

3. Use the following rules to determine **which indicators apply to which schools**:
    A. Exclude Schools that serve P only, K only, or P and K only.
    B. For schools serving up to grade 1:
        a. ELA/Math Proficiency: Pull grade 1 enrollments from (Current Year-2). Use their 2018 ELA & Math proficiency data.
        b. Growth: Pull grade 1 enrollments from (Current Year-3). Use their 2018 ELA & Math SGPs.
        c. ELPtP: Pull grade 1 enrollments from (Current Year -1). Use their 2018 ELPtP calculations.
        d. Chronic Absenteeism: Use Current Year enrollment data for grade 1.
    C. For schools serving up to grade 2:
        a. ELA/Math Proficiency: Pull grade 2 enrollments from (Current Year-1). Use their 2018 ELA & Math proficiency data.
        b. Growth: Pull grade 2 enrollments from (Current Year-2). Use their 2018 ELA & Math SGPs.

c. Chronic Absenteeism: Use Current Year enrollment data for grades 1 - 2.

D. For schools serving up to grade 3:
   a. ELA/Math Proficiency: Use Current Year Grade 3 ELA and Math proficiency data.
   b. Growth: Pull enrollments from (Current Year-3). Use their 2018 ELA & Math SGPs.
   c. Chronic Absenteeism: Use Current Year enrollment data for grades 1 - 3.

E. Treatment of 6-9 configuration schools
   a. Use 3-8 Indicators only (Only 1 School)

F. Treatment of 8-12 configurations
   a. Use 9-12 indicators only

G. Treatment of high schools missing a critical grade
   a. 9th Grade On-Track: Pull current grade 10 enrollments. Use their 2018 FOT rates.
   b. ELA/Math Proficiency: Pull highest grade enrollments from (Current Year – 1) if highest grade is 10, or (Current Year -2) if highest grade is 9. Use their 2018 ELA & Math proficiency data.
   c. Graduation rate: **Identify known feeder school. Use their graduation rate data.

H. Treatment of schools substantially spanning grade bands:
   a. Calculate two summative designations, one for 3-8, and one for 9-12.
   b. Use both in the ranking process.
   c. Display on Report Card only the 9-12 designation

Step 2. Convert the School Performance Level to an Indicator Score by Student Groups

1. For each indicator, as applicable to grades served, convert the school's performance level on that indicator into an indicator score, using the following rules:

Indicator	Performance Level to Indicator Score Calculation Rules
1-8 ELA Proficiency	A. If **% Proficient** ≥ **Interim Target for demographic group** for year (See ELA 3-8 Interim Targets Table) Indicator Score = 100 B. **3-8_ELA Score:** (**% Proficient** / **Interim Target for demographic group** for year)* 100
1-8 Math Proficiency	A. If **% Proficient** ≥ **Interim Target for demographic group** for year (See Math 3-8 Interim Targets Table) Indicator Score = 100 B. **3-8_Math Score:**(**% Proficient** / **Interim Target for demographic group** for year) * 100
1-8 ELA Growth	A. **ELA Growth Score:** [(**ELA_MSGP** * 20/9)) – 62.2222222221]
1-8 Math Growth	A. **Math Growth Score:** [(**Math_MSGP** * 20/9)) – 62.2222222221]
1-12 EL Progress to Proficiency	For Students **within the 5 year timeline**: A. If **Progress Ratio** is greater than or equal to 1 = 100 points B. If **Progress Ratio** is less than 1, Progress ratio * 100 = awarded points For Students **past the 5 year timeline**: A. If the student reaches **proficiency** = 100 points B. If the student does not reach proficiency, **Progress Ratio** will be less than 1, Progress ratio * 100 = awarded points
9-12 ELA Proficiency	A. If **% Proficient** ≥ **Interim Target for demographic group** for year (See ELA 3-8 Interim Targets Table) Indicator Score = 100

Indicator	Performance Level to Indicator Score Calculation Rules
	B. **HS_ELA Score:** (**% Proficient** / **Interim Target for demographic group** for year) * 100
9-12 Math Proficiency	A. If **% Proficient** ≥ **Interim Target for demographic group** for year (See Math 3-8 Interim Targets Table) Indicator Score = 100 B. **HS_Math Score:** (**% Proficient** / **Interim Target for demographic group** for year)* 100
High School Graduation Rate (9-12)	A. **Graduation Score:** (For All Subgroups Except IEP): [(**Weighted Adjusted Cohort Graduation Rate** - 66.66) * 3], with negative values rounded to 0, and a maximum score of 100. B. **Graduation Score**: (IEP Subgroup): [(**Weighted Adjusted Cohort Graduation Rate*** 2) – 86] with negative values rounded to 0, and a maximum score of 100.
9th Grade On-Track (9-12)	A. **On-Track Score:** [(**% OnTrack** – 66.6) * 3], with negative values rounded to 0, and a maximum score of 100., with negative values rounded to 0, and a maximum score of 100.
1-12 Chronic Absenteeism	**A. Chronic Absenteeism Score:** [(100 – (**Chronic Absenteeism Rate***2)]

2. Conduct this process for all **student groups for which there is an n-size ≥ 20,** saving as variables**:**
    - **All**_Indicator Name (for all grade band indicators) Name (for all grade band indicators)
    - **White**_Indicator Name Name
    - **Black**_Indicator Name Name
    - **Hispanic**_Indicator Name Name
    - **Two or More**_Indicator Name
    - **Asian**_Indicator Name Name
    - **Hawaiian/Pacific Islander**_Indicator
    - **Native American**_Indicator Name
    - **EL**_Indicator Name Name
    - **Former EL**_Indicator Name
        i. **Definition of Former EL**: A student who has had the EL designation at any point in the past, who has reached proficiency.
    - **SWD**_Indicator Name Name
    - **Former SWD**_Indicator Name Insufficient Data is available to calculate this student group in 2018
    - **Low Income**_Indicator Name_Indicator Name

Step 3. Weight and aggregate the Indicator Scores to create School Group Index Scores

Elementary

Formula

$$GroupElaPro * (.1 + R_1) + GroupMathPro * (.1 + R_2) + GroupELPtP * (.05 + R_3) + ELAGrowth * (.25 + R_4) + MathGrowth * (.25 + R_5) + ChronicAbsent * (.2 + R_6) + 5_{ClimateSurvey}$$

High School

Formula

$$GroupHSElaPro * (.1 + R_1) + GroupHSMathPro * (.1 + R_2) + GroupHSELPtP * (.05 + R_3) + GroupGrad * (.5 + R_4) + 9thGradeOnTrack * (.0625 + R_5) + ChronicAbsent * (.075 + R_6) + 5_{ClimateSurvey} + 6.25_{CCR\ wt}$$

R_n is the relative weight that needs to be added to each of the remaining variables if one or more of the variables are missing.

W_n is the original respective weight of the given indicator.

For each school:

- $\Sigma(missing\ weights)$: Sum up the weights of the indicators that are missing or null
- $\Sigma(remaining\ weights)$: Sum up the weights of the indicators that have scores not including the default (e.g. climate survey & CCR)
- Use relative weight formula for each indicator

  *Treat missing indicators as 0's, which will eliminate them from the formula.

Add relative weights to the above formula and calculate.

$$R_n = W_n * \frac{\Sigma(missing\ weights)}{\Sigma(remaining\ weights)}$$

1. Repeat for all Groups where size >=20 and having data **in 4 or more indicators**. Save as variables **18School_ or 912School_**
    - ES school scores are held harmless for climate survey, therefore 5.000 is added to index scores.
    - HS school scores are held harmless for climate survey and college and career readiness, therefore 11.250 is added to the index scores.
        i. **All**_Index
        ii. **White**_Index
        iii. **Black**_Index
        iv. **Hispanic**_Index
        v. **Two or Mo**re_Index
        vi. **Asian**_Index
        vii. **Hawaiian/Pacific Islander**_Index
        viii. **Native American**_Index
        ix. **EL**_Index
        x. **Former EL**_Index
        xi. **SWD**_Index
        xii. **Former SWD**_Index Insufficient Data is available to calculate this student group in 2018
        xiii. **Low Income**_Index

Step 4. Business Rules to go from Index Score to Summative Designation and/or TSI/CSI designation

Elementary Assignment

1. Rank order all 1-8 schools by the School score for the all student list from highest index score to lowest.
2. Identify the lowest performing 5% of all 1-8 Schools.
3. Save the **18School_All_Index** of the highest scoring school in the lowest 5% as variable **18CSI_Threshold**.
4. Apply **Summative Designation Lowest Performing** to all schools at or below **18CSI_Threshold**.
5. Identify the top 10% of all 1-8 Schools; assign **Summative Designation Exemplary**.
6. Compare all **18School_Subgroupname_Index** to variable **18CSI_Threshold**.
7. If **18School_Subgroupname_Index** is ≤ **18CSI_Threshold**, apply **Summative Designation Underperforming** overwriting any summative designation of Exemplary.
8. For all other schools, where **Summative Designation** is blank, assign **Summative Designation Commendable**.

High School Assignment

9. Rank order all 9-12 schools by the School score for the all student list from highest index score to lowest.
10. Identify the lowest performing 5% of all 9-12 Schools.
11. Save the **912School_All_Index** of the highest scoring school in the lowest 5% as variable **912CSI_Threshold**.
12. Apply **Summative Designation Lowest Performing** to all schools at or below **912CSI_Threshold**.
13. Identify the top 10% of all 9-12 Schools; assign **Summative Designation Exemplary**.
14. Compare all **912School _Subgroupname_Index** to variable **912CSI_Threshold**.
15. If **912School _Subgroupname_Index** is ≤ **912CSI_Threshold**, apply **Summative Designation Underperforming** overwriting any summative designation of Exemplary.
16. For all other schools, where **Summative Designation** is blank, assign **Summative Designation Commendable**.
17. For all schools, check the **All Grad score**. If **All Grad** = 0 apply the **Summative Designation Lowest Performing** overwriting any assigned designation. All Grad equals 0 in cases where the graduation rate is below 67%.