



## **Designing Kentucky’s Accountability System, Compliant with Senate Bill 158 (SB 158):**

### **Key Issues and Options**

#### **Background**

Recently enacted legislation, SB 158, stipulates a number of aspects of Kentucky’s school accountability system. The Kentucky Board of Education (KBE) and Kentucky Department of Education (KDE) are responsible for translating the statutory requirements into policies, programs and practices. The legislation requires several significant changes from the previous accountability system, although much can remain the same. This document provides background information, discussion of issues and some possible options for key aspects that must be changed, including:

- A. How to measure and evaluate Status and Change for indicators;
- B. How to combine school performance on the multiple indicators into a single overall score and rating;
- C. How to measure and evaluate English learner students’ progress toward English language proficiency; and
- D. How to help ensure appropriate inclusion and reliable and precise accountability measurement and determinations, including through setting “a minimum-n count.”

The “California Model” of school accountability influentially informed SB 158. Examples of how California deals with the first two issues are provided.

#### **A. Status and Change**

##### **Background**

SB 158 stipulates that school performance must be measured exclusively for the designated indicators (State Assessment Results, Progress on English Language Proficiency for English Learners, Quality of School Climate and Safety, Postsecondary Readiness and Graduation Rate) in two ways:

- Status, which defined as the annual school-level summary based on student performance that year, and
- Change, which is defined as the difference between one year’s Status score and the subsequent year’s Status score, e.g., 2022 State Assessment Results for Reading and Mathematics (Proficiency) compared to 2021 State Assessment Results for Reading and Mathematics (Proficiency).

An example is given below of calculating school performance in Status and Change of State Assessment Results for Reading and Mathematics. For simplicity, the example shows a school consisting of only five students in each of two years.



Figure 1: Example calculation from student proficiency scores to school Proficiency Index scores, two years

<b>Example School Status and Change Score Calculations, State Assessment Results for Reading and Mathematics Indicator</b> (number of students = 5)					
<b>2021</b>			<b>2022</b>		
Student	Student Performance	Points	Student	Student Performance	Points
A <sub>21</sub>	Novice	0	F <sub>22</sub>	Apprentice	50
B <sub>21</sub>	Apprentice	50	G <sub>22</sub>	Apprentice	50
C <sub>21</sub>	Distinguished	125	H <sub>22</sub>	Proficient	100
D <sub>21</sub>	Proficient	100	I <sub>22</sub>	Proficient	100
E <sub>21</sub>	Apprentice	100	J <sub>22</sub>	Distinguished	125
5 students	Total	375	5 students	Total	425
School Reading and Mathematics Index 2021		$375 / 5 = 75.0$	School Reading and Mathematics Index 2022		$425 / 5 = 85.0$

Figure 2: Example summary of a school's two Status scores and corresponding Change score

<b>State Assessment Results for Reading and Mathematics Status and Change Scores</b>			
	<b>Status 2022</b>	<b>Status 2021</b>	<b>Change 2022</b>
<b>School score</b>	85.0	75.0	$85.0 - 75.0 = 10.0$



### Combining Status and Change into a Performance Rating

The example above shows how a pair of Status scores could be calculated for each school, for two adjacent years and how a Change score could be calculated from those two Status scores. How shall Status and Change performance for that indicator be combined to yield a single performance designation for a school on that indicator?

In the California Model, Status and Change for an Indicator—in this example, State Assessment Results for Reading and Mathematics Indicator—are combined into a rating using a two-way decision table—a 5 x 5 table representing five levels of performance each on Status and Change<sup>1</sup>. (See example below.)

Figure 3: Sample Profile Table showing combinations of Status and Change, and associated Performance Levels for an Indicator (CDE, 2019, p. 21)

**Five-by-Five Colored Tables**

As described earlier, an LEA, school, or student group’s performance level (color) is determined through the use of a five-by-five colored table. For instance, an LEA or school with a “High” in **Status** and an “Increased” in **Change** will receive an overall performance level of **Green** for most of the state indicators. See Figure 2 below.

**Figure 2: How to Get a Performance Level (Color)**

Level	Declined Significantly from Prior Year	Declined from Prior Year	Maintained from Prior Year	*Increased from Prior Year	Increased Significantly from Prior Year
Very High in Current Year	Yellow	Green	Blue	*Blue	Blue
*High in Current Year	*Orange	*Yellow	*Green	*Green	Blue
Medium in Current Year	Orange	Orange	Yellow	Green	Green
Low in Current Year	Red	Orange	Orange	Yellow	Yellow
Very Low in Current Year	Red	Red	Red	Orange	Yellow

The table shows how a Status performance and a Change performance are combined to yield a single overall rating for that indicator. In Figure 3, for example, a school that had a Status level

<sup>1</sup> 2019 California School Dashboard Technical Guide: Final Version, 2019-20 School Year. (Dec. 2019). California Department of Education. <https://www.cde.ca.gov/ta/ac/cm/documents/dashboardguide19.pdf>



of “High in Current Year” and a Change level of “Increased from Prior Year” together are assigned a “Green” overall rating for this indicator.

It is very important to note that many different possible tables could be created. It is essential that guidance be articulated that will undergird the particular assignments of color designations to Status/Change combinations.

Question 1: What guidance does the Board have regarding Status and Change in relation to an overall indicator designation that should be used to create the 5x5 tables for Kentucky?

### Tasks for the Board:

- 1.1 **Articulate guidance** that will undergird the creation of the 5x5 tables that assign overall indicator ratings to combinations of Status and Growth.

For example, using the five colors, and labels for the five levels of Status and five levels of Change which California used (which could be changed):

1. Shall Red (lowest designation) be assigned to the combination of Very Low in Current Year (Status) and Declined Significantly from Prior Year (Change)?
2. Shall Blue (highest designation) be assigned to the combination of Very High in Current Year (Status) and Increased Significantly from Prior Year (Change)?
3. What should be the color designation of a school with Very High Status and Decreased Significantly Change (upper left corner cell)?
4. What should be the color designation of a school with Very Low Status and Increased Significantly Change (lower right corner cell)?
5. In general, if a change in Status level has a change in color (up or down), should a change in Change level similarly have a change in color?

### Notes:

- The 5 x 5 table design is inferred from SB 158, which stipulates that “there shall be five (5) status levels for ranging from very low to very high and five (5) change levels ranging from increased significantly to declined significantly.” (SB 158 (1)(c)2)
- This task interacts with setting the cutscores for each level. SB 158 stipulates, “The percentile cut scores for status and change levels shall be based on distribution and shall be approved by the KDE and the Local Superintendents Advisory Council (LSAC).” (SB 158 (1)(c)3). The KBE is providing guidance on the policy intentions that will be represented by the assignment of colors to the cells of the 5x5 table. As defined in SB 158, KDE and LSAC will approve the numerical cutscores that move performance from one cell to another.
- SB 158 (1)(c)1 and California’s accountability workbook approved by USED mention “equal weight” for Status and Change. Conversations with USED staff confirmed that two-way tables were approved by this description.



## B. Combining Performance on Indicators to Generate an Overall Designation

The federal Every Student Succeeds Act (ESSA) law requires that states assign schools as one of at least four overall designations:

- CSI (Comprehensive Support and Improvement – bottom 5% of Title I schools)
- ATSI (Additional Targeted Support and Improvement – schools with any student group that performed at the level of the bottom 5% schools)
- TSI (Targeted Support and Improvement – states may define)
- None of the above (specific labels are left up to the state)

Federal and state law require the state make a number of decisions regarding these designations, such as how frequently they will be made, the criteria for exiting the designation, etc. For accountability identification, the focus is on what the overall designations will be and how those overall designation determinations will be made.

While the federal law requires only designations of low-performing schools, SB 158 requires that all schools receive an overall designation; the intent was that middle- and higher-performing schools would receive designations that distinguishes them from each other, as well as from the federally required lower-performing designations (i.e., TSI and ATSI).

Question 2: How many possible overall designations of performance should there be?

### Tasks for the Board:

- 2.1 Decide **how many** overall designations should there be
- 2.2 Decide **how to communicate** the overall designation

Notes:

- Kentucky's overall performance designations will be assigned separately from the federally mandated designations of CSI, ATSI and TSI.
- How many overall designations should be used? KDE recommends creating 5 overall state performance designations (in addition to CSI, ATSI and TSI), given the number of indicators and range of performances.
- The KBE may wish to consider from the following options how to communicate **overall** performance:
  - Numbers (e.g., Level 1-5); or
  - Word labels (e.g., Outstanding); or
  - Symbols (e.g., stars); or
  - Colors (e.g., blue, red).

Note: SB 158 requires a color dashboard for indicators, a color for overall might be confused with the color for indicators.



Question 3: What should the weights be for indicators when calculating the overall performance scores and designations?

KDE recommends that an index method with weights be used to combine performances on the multiple indicator measures to produce an overall school performance score. Previous Kentucky accountability systems have used an index method with weights. This is different than the profile method used in the California Model. The main reasons for using the index method rather than the profile method are:

- The index method makes it more feasible to assign overall performance designations for all schools and not just the lowest performing (California only identifies CSI schools on the basis of overall performance)
- The index method makes it more feasible to identify the bottom 5% of schools, as required by federal and state law, if school performance were to change over time, without changing the performance cutscores
- Explicit weights with an index method help ensure the results of the accountability system reflect the values of policy makers
- SB 158 requires the use of weights in creating an overall performance designation

Index methods involve combining scores into an overall score or determination through a mathematical formula. Indices are typically best used when there is an identifiable relationship between performances on the components and the overall determination, or when finer grain distinctions are needed than the patterns, or when more control is desired than is feasible using a profile method.

An example of the index method is given below. In its past accountability system Kentucky calculated an overall score, and then assigned the overall designation based on the overall score. All schools received an overall score and designation.



Figure 4: Example calculation of overall designation (e.g., CSI), using an index approach

<b>Identifying Lowest-performing 5% of Title I Schools for CSI</b>					
<ol style="list-style-type: none"> <li>1. Calculate overall Index Score (in green box) for every school, using designated weights for indicators (see example below)</li> <li>2. Rank order schools</li> <li>3. Identify lowest 5%</li> </ol>					
Indicator	Actual Performance	Points Possible	Points of Pts Possible	Weight	Overall Index Score (Weighted Points)
Proficiency	100	125	$100/125 = 80$	35%	$80 \times .35 = 28$
Separate Academic Indicator	100	125	80	26%	20.8
Growth (and EL Progress)	100	250	40	35%	14
Quality of School Climate and Safety	100	100	100	4%	4
			Total	100%	66.8
Bottom 5% Overall Index Score = 59.6					
Example school's Index Score is greater than 59.6, so school is not identified for CSI					

**Tasks for the Board:**

- 3.1 What weights should be assigned to each indicator?

**Notes:**

- Weights signal the relative importance of each indicator. Weights should also reflect the technical reliability of the indicator—indicators with low precision and that are less reliable should have lower weights to keep the overall accountability determination acceptably reliable and certain.

Federal law requires that the “School Quality/Student Success” indicator (e.g., Quality of School Climate and Safety, Postsecondary Readiness) must have “substantially less weight” than the other indicators added together (e.g., State Assessment Results, Progress on English Language, and Graduation Rate). In Figure 5 below, the left side shows the indicators and weights of the past accountability system for elementary/middle schools. The right side shows the indicators specified by SB 158.

In Figure 6 below, the same information is shown for high school accountability indicators, for the past accountability system and for the indicators specified by SB 158.



Figure 5: Indicators and weights for past and SB 158-compliant accountability systems, Elementary/middle schools (to be completed with KBE recommendations)

<b>KBE Recommended Accountability Weights for Elementary/Middle Schools</b>				
	<b>Past Accountability System</b>		<b>SB 158-Compliant System</b>	
		<b>Weight</b>		<b>Weight</b>
<b>Indicators</b>	<b>Proficiency:</b> State Assessment Results for Reading and Mathematics	35%	<b>Proficiency:</b> State Assessment Results for Reading and Mathematics	
	<b>Separate Academic Indicator:</b> State Assessment Results for Science, Social Studies and Writing	26%	<b>Separate Academic Indicator:</b> State Assessment Results for Science, Social Studies and Writing	
	<b>Growth</b> (including English Learner Progress Toward English Language Proficiency)	35%	<b>English Learner Progress</b> Toward English language Proficiency	
	<b>Quality of School Climate and Safety</b>	4%	<b>Quality of School Climate and Safety</b>	
	<b>Total</b>	<b>100%</b>	<b>Total</b>	<b>100%</b>





Figure 6: Indicators and weights for past and SB 158-compliant accountability systems, High schools (to be completed with KBE recommendations)

<b>KBE Recommended Accountability Weights for High Schools</b>				
	Past Accountability System		SB 158-Compliant System	
		Weight		Weight
<b>Indicators</b>	<b>Proficiency:</b> State Assessment Results for Reading and Mathematics	45%	<b>Proficiency:</b> State Assessment Results for Reading and Mathematics	
	<b>Separate Academic Indicator:</b> State Assessment Results for Science, Social Studies and Writing	15%	<b>Separate Academic Indicator:</b> State Assessment Results for Science, Social Studies and Writing	
	<b>Transition Readiness</b> (including English Learner Progress Toward English Language Proficiency)	30%	<b>English Learner Progress</b> Toward English language Proficiency	
			<b>Postsecondary Readiness</b>	
	<b>Quality of School Climate and Safety</b>	4%	<b>School Climate and Safety</b>	
	<b>Graduation Rate</b>	6%	<b>Graduation Rate</b>	
	<b>Total</b>	100%	<b>Total</b>	100%

- Profile methods involve assigning patterns of scores or labels to the overall determination. Profiles are typically best used when the performances being aggregated are relatively few in number and there is not a simple mathematical relationship between performances on the components and the overall determination. An example of the profile method is given below. California assigns the overall designation using a “profile method” that combines the ratings for the Indicators, but only for assigning schools a designation of CSI, ATSI or TSI. The profiles of colors include, “all red,” “all red and orange,” etc.



Figure 7: California profile rules for identifying schools for CSI (CDE, 2019, p. 179)

**Lowest-performing Title I Schools (CSI–Lowest Performing Schools)**

After, schools determined to be eligible for ‘CSI–Low Graduation Rate’ are removed from the pool of Title I–funded schools, schools that meet the criteria for ‘CSI–Lowest Performing Schools’ are determined next. The lowest-performing Title I schools—as required by ESSA—will be determined based on the data in the 2019 Dashboard, using the color combinations that schools receive at the school level (i.e., not student group level) on the Dashboard state indicators. The selection criteria are:

- Schools with all red indicators;
- Schools with all red but one indicator of any other color;
- Schools with all red and orange indicators; and
- Schools with five or more indicators where the majority are red.

For Kentucky elementary/middle schools—with four indicators, each with five possible levels—there are 625 unique possible indicator profiles. There are 15,625 possible profiles with the six indicators for high schools. The rules in Fig. 7 account for 27 of the possible 625 profiles for elementary/middle schools in Kentucky’s accountability system. And that is only if one assumes the indicators have equal weight. It is clear that to provide an overall determination, considering weights, would be a dauntingly complex task using profiles.

### C. Including English Learner Progress in Accountability, with Allowed Federal Flexibility Background

Federal and state laws require the assessment and inclusion in accountability of English learners’ progress towards English language proficiency in reading, writing, speaking and listening. English learners are students whose first language is not English, and whose level of English language proficiency requires support for them to access school instruction successfully in English. Note that this English language proficiency is different than proficiency in the academic content of reading, English language arts and writing. Students who may be English learners based on a home language survey take an initial test as a screener of English language proficiency upon enrolling in public school. If identified as eligible for receiving support as an English learner, the students take a test of English language proficiency annually in the winter thereafter until the students exit English learner status. Kentucky uses the ACCESS test produced by the WIDA consortium.

Consistent with the federal law, Kentucky determines the progress towards English language proficiency made by each English learner annually. This entails comparing the student’s score in the most recent year with the student’s score in the previous year. Points are credited, depending on the amount of growth shown by each English learner student in the school. Note that this longitudinal growth measurement is required by federal law, and so measurement of English learners’ progress Status and Change will differ from other indicators. For English learner



progress towards proficiency, Status will consist of the aggregate progress made by English learners in the school that year. Change will consist of the difference between the progress made by the EL students in the most recent year (Year 2) compared with the preceding year (Year 1). KDE has had USED confirm that this definition of EL progress is required by federal law.

Kentucky’s population of English learner students has grown rapidly in the past decade, to about 30,000 EL students in 2019. While Spanish is the most common first language, there is wide diversity; for example, Jefferson County Public Schools reports 125 languages spoken among its students.<sup>2</sup> Linguists, educators and federal policy recognizes that English learners’ progress towards English language proficiency may be affected by several factors. Federal policy allows the state flexibility in setting accountability expectations, to consider three factors:

- Student age upon initially enrolling in a U.S. public school
- Student degree of English language proficiency upon initially enrolling
- Degree of interrupted schooling experienced by the student (e.g., students may not have been enrolled in school consistently due to war, refugee status, migrant status, etc.)

According to WIDA, “Students with Limited or Interrupted Formal Education (SLIFE) is an umbrella term used to describe a diverse subset of the English language learner population who share several unifying characteristics. SLIFE usually are new to the U.S. school system and have had interrupted or limited schooling opportunities in their native country. They have limited backgrounds in reading and writing in their native language(s) and are below grade level in most academic skills (Freeman & Freeman, 2002). Students who have these characteristics could be refugees, migrant students, or any student who experienced limited or interrupted access to school for a variety of reasons, such as poverty, isolated geographic locales, limited transportation options, societal expectations for school attendance, a need to enter the workforce and contribute to the family income, natural disasters, war, or civil strife. The vast majority of students in this group are enrolled in Grades 6 through 12.” (WIDA)

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<sup>2</sup> <https://www.jefferson.kyschools.us/about/newsroom/jcps-facts>



Table 1:

<b>2019-20 EL and EL Monitored w/Interrupted Schooling Indication</b>	
<b>Grade Level</b>	<b>Student Count</b>
Preschool	1
K	2
1	6
2	13
3	25
4	19
5	34
6	23
7	33
8	37
9	86
10	55
11	64
12	64
14	1
<b>Total</b>	<b>463</b>

Table 2:

<b>Count by Students Identified EL by Age 2019-20 Data</b>	
<b>Age when EL Identified</b>	<b>Count by Age</b>
2	2
3	20
4	359
5	15,714
6	4,833
7	2,055
8	1,630
9	1,491
10	1,309
11	1,182
12	1,066
13	958
14	841
15	749
16	762
17	570
18	235
19	67
20	24
<b>Total</b>	<b>33,867</b>

Kentucky to date has not incorporated these federally allowed factors for English learners into the state’s accountability system. However, KDE agrees with the recommendations made by many groups that such factors be included, if the data are available.

Question 4: Should the federally allowed factors of age, degree of English language proficiency and degree of interrupted schooling be incorporated for English learners into the state’s accountability system?

**Tasks for the Board:**

- **Confirm** that the allowed federal flexibilities should be incorporated into Kentucky’s accountability system

Notes:



- In past accountability systems, a “value table” method was used that credited the school with different numbers of points for progress made by English learners. The value table was sensitive to growth, wherever a student started. Unlike some states, Kentucky’s approach allows EL growth to be credited to a school whenever that growth occurs, no matter how long the student has been in public school. However, there was only one value table for all English learner students, see Table 3 below.

Table 3: English Learner Growth Value Table

WIDA ACCESS Composite Score – Previous Year	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
4.0	0	0	0	0	0	0	50	100
3.5	0	0	0	0	0	50	100	150
3.0	0	0	0	0	50	100	150	200
2.5	0	0	0	50	100	150	200	250
2.0	0	0	50	100	150	200	250	300
1.5	0	50	100	150	200	250	300	300
1.0	0	100	150	200	250	300	300	300

Incorporating the three areas of federal flexibility would acknowledge that students would be expected to progress towards English language proficiency more slowly if the student were older when initially enrolled in a U.S. public school, had a lower level of English language proficiency initially and/or had a greater degree of disrupted schooling.

For example, if a student had a background of a moderate degree of disrupted schooling, that student might be expected to make two-thirds as much growth in a year as a student without disrupted schooling, for the same points. A student with extensive disrupted schooling might be expected to make one-third as much growth in a year as a student without disrupted schooling, for the same points.

The actual adjustments in expectations and points will reflect consultations with educators and researchers familiar with English learners and analysis of available data.



## **D. Ensuring Appropriate Inclusion and Reliability Including Through Minimum-N**

### **Background**

Accountability systems, like other measurement systems, should be based on measures and scores that support valid interpretations, are appropriately reliable/precise for the intended uses and are fair. In addition, accountability systems should be sustainable, which includes being simple enough to communicate effectively to garner support, and to maintain operationally. Because they are based on imperfect measures of human performance, accountability measures always have some variability. Some of that variability reflects real differences, and some is uncertainty because of the imperfections in instruments and the nature of human performance. Accountability systems usually are designed to minimize uncertainty to the levels deemed appropriate by policy makers and that are technically possible, reflecting policy values about inherent tradeoffs.

In accountability systems, fewer students' scores yield less reliable school scores when generalizing about past and future school performance. One common method for increasing reliability of school scores is to require a minimum number of student scores, or "minimum-n" in order for the school to be included in accountability. The higher the minimum-n (up to a point), the more reliable the school score. However, the higher the minimum-n, the more schools and/or student groups will not be included, since the result of requiring, for example, at least 10 students is that any school or student group with fewer than 10 students will not be included in accountability. The policy decision about where to set a minimum-n must identify the acceptable balance is between inclusion and reliability, within what is technically possible. It is not technically possible in Kentucky's measures, for example, to have a very low minimum-n and a high level of reliability. A third factor to consider is privacy. State and federal laws (e.g., FERPA) protect certain individual information from being disclosed. Aggregation and reporting results of groups and not individuals is one way to protect personally identifiable information. The minimum-n needed to protect individual privacy is generally quite low—in simple systems, perhaps 5, which is much lower than the minimum-n required for accountability reliability. A minimum-n that supports reliable accountability decisions will be sufficiently high to safeguard individual data privacy in all but the most unusual circumstances. A fourth factor is simplicity—Kentucky has tried to keep its use of minimum-n very simple, with one rule applied to all situations. It would be possible to tune minimum-n rules to different situations, but at the tradeoff of increased complexity.

Kentucky, for many years, has used a minimum-n of 10 students per grade that applies to schools and student groups. During the last session of the General Assembly, a proposal has been made to use a minimum-n of 30 students for every school and student group.



Question 5: What should be the minimum-n, which strikes the appropriate balance between inclusion, reliability, and simplicity?

**Tasks for the Board:**

- **Determine the values** that the Board believes should be optimized, recognizing that it is not possible to maximize inclusion, reliability and simplicity all with the same minimum-n
- **Recommend** a minimum-n that reflects those values
  - Two options (not exhaustive) include:
    - Option 1: Keep the balance between inclusion, reliability and simplicity similar to what KDE has done in the past, with a minimum-n of 10 per grade/group
    - Option 2: Change the balance between reliability and inclusion, while keeping the system very simple (e.g., implement a single rule about n-size, such as increase the minimum-n to 30 per school/student group, which would relatively increase the emphasis on reliability and decrease inclusion, or select a smaller minimum-n, which would relatively decrease the emphasis on reliability and increase inclusion)

**Notes:**

- The values the Board articulates will direct the relative emphasis on inclusion, reliability and simplicity. What does the Board wish the accountability system to accomplish? In particular, what does the Board wish the impact to be of the accountability system through student groups, since the largest effect of whatever minimum-n is chosen will be on the relative inclusion of indicators for student groups, which play a central role in accountability for TSI and ATSI, the federally mandated designations that depend on student group performance. Student group performance that is reported but not included in any accountability decisions is also governed by a minimum-n for reporting, where the primary value is privacy. The minimum-n for reporting often is smaller than the minimum-n used for balancing reliability and inclusion.
- Analyses of Kentucky data from 2019 show that increasing the minimum-n to 30 would result in a substantial decrease in inclusion of student groups when assessment is based on a single grade for a content area assessment: fewer schools' student groups such as Students with Disabilities (-25.2%), Hispanic (-11.3%) and African American (-8.8%) would have data included for accountability. This impact is seen for the Separate Academic Indicator, where Science, Social Studies and Writing are assessed once per grade span for elementary, middle and high schools. (See Figure 8) A similar drop in inclusion would also occur in Academic Proficiency (reading and mathematics) in high schools.





Figure 8: Impact on inclusion for the Separate Academic Indicator, for student groups, all grade spans combined

<b>For the Separate Academic Indicator (Science, Social Studies, Writing) Inclusion of Schools (elementary/middle/high) in Accountability, For All Students and other Student Groups, Using 10-per-grade and 30 minimum-n (2019 data)</b>						
Group	# Schools with at least one student <sup>1</sup>	Schools with at least 10 students per grade		Schools with at least 30 students per school		Difference in Percent Schools Included if use 30 rather than 10/gr
		Number	Percent <sup>2</sup>	Number of schools compared to 10-per-grade <sup>3</sup>	Percent <sup>2</sup>	
All Student	1243	1237	99.5	-17	98.1	-1.4%
Black	949	315	33.2	-83	24.4	-8.8%
Hispanic	1081	287	26.5	-123	15.2	-11.3%
White	1242	1210	97.4	-34	94.7	-2.7%
Economic Disadvantaged	1243	1213	97.6	-50	93.6	-4%
English Learner	820	152	18.5	-46	12.9	-5.6%
Students with Disability-IEP	1241	634	51.1	-313	25.9	-25.2%
Two/more races	1040	134	12.9	-87	4.5	-8.4%
Asian	659	52	7.9	-26	3.9	-4%
Native American/...	240	0	0	0	0	0
Native Hawaiian...	204	0	0	0	0	0

<sup>1</sup> All schools: elementary, middle, or high school

<sup>2</sup> Percent of schools with at least one student in the corresponding group

<sup>3</sup> Fewer schools met a minimum-n of 30; there were never any schools that met a minimum-n of 30 that did not also meet a minimum-n of 10-per-grade





- It is not technically feasible to use a minimum-n below 10 students in Kentucky’s accountability system and maintain acceptable reliability of accountability scores, ratings and decisions. The minimum-n for reporting may be less than the minimum-n for accountability.
- Federal law allows, and some states have incorporated more than one minimum-n into their accountability systems, e.g., for different indicators. (But federal law requires the same minimum-n be used across student groups.) Multiple minimum-n’s increase the complexity of the accountability system, depending on how they are used. Methods other than using a minimum-n may also be used to safeguard reliability, but are more complex than a minimum-n; almost all states use a minimum-n.