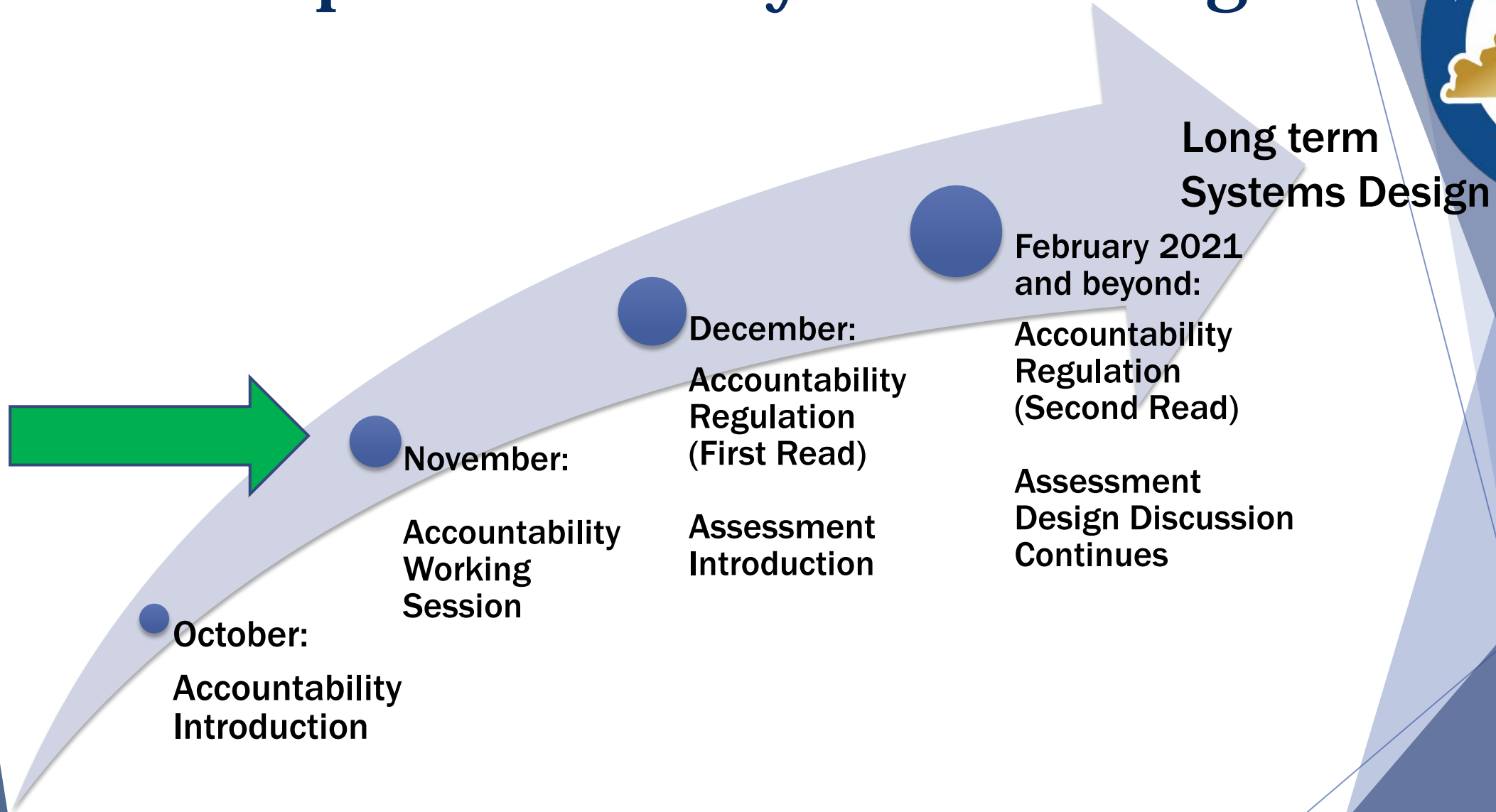# Discussion and Guidance on Amendments to Kentucky's Accountability System

Kentucky Board of Education

Special Session

November 2020

First Steps Toward Systems Design

Long term Systems Design

February 2021 and beyond:

Accountability Regulation (Second Read)

Assessment Design Discussion Continues

December:

Accountability Regulation (First Read)

Assessment Introduction

November:

Accountability Working Session

October:

Accountability Introduction

Topics

▸ How to measure and evaluate Status and Change for indicators;

▸ How to combine school performance on the multiple indicators into a single overall score and rating;

▸ How to measure and evaluate English learner students' progress toward English language proficiency; and

▸ How to help ensure appropriate inclusion and reliable and precise accountability measurement and determinations, including through setting "a minimum-n count."

Combining Status and Change into a Performance Rating

How to Measure and Evaluate Status and Change for State Indicators

Senate Bill (SB) 158 stipulates that school performance must be measured exclusively for the designated indicators.

- **Status**, which is 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).

Example Calculation Using Student Proficiency Scores (Two Years)

Example School Status and Change Score Calculations, State Assessment Results for Reading and Mathematics Indicator
(number of students = 5)

2021			2022		
Student	Student Performance	Points	Student	Student Performance	Points
A_{21}	Novice	0	F_{22}	Apprentice	50
B_{21}	Apprentice	50	G_{22}	Apprentice	50
C_{21}	Distinguished	125	H_{22}	Proficient	100
D_{21}	Proficient	100	I_{22}	Proficient	100
E_{21}	Apprentice	100	J_{22}	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

Example Summary of a School's Two Status Scores and Corresponding Change Score for Proficiency

State Assessment Results for Reading and Mathematics Status and Change Scores			
	Status 2022	Status 2021	Change 2022
School score	85.0	75.0	85.0 – 75.0 = 10.0

Sample 5 x 5 Colored Table

Change

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	Box C				Box B
High in Current Year					
Medium in Current Year					
Low in Current Year					
Very Low in Current Year	Box A				Box D

Status

- In this example, results for an Indicator would combine into a rating using a two-way decision table—a 5 x 5 table representing five levels of performance each on Status and Change
- As defined in SB 158, KDE and LSAC will approve the numerical cut scores that move performance from one cell to another.

Sample 5 x 5 Colored Table: Box A

Change

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	Box C				Box B
High in Current Year					
Medium in Current Year					
Low in Current Year					
Very Low in Current Year	Box A				Box D

Status

Box A: Shall Red (lowest designation) be assigned to the combination of Very Low in Current Year (Status) and Declined Significantly from Prior Year (Change)?

Sample 5 x 5 Colored Table: Box B

Change

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	Box C				Box B
High in Current Year					
Medium in Current Year					
Low in Current Year					
Very Low in Current Year	Box A				Box D

Status

Box B: Shall Blue (highest designation) be assigned to the combination of Very High in Current Year (Status) and Increased Significantly from Prior Year (Change)?

Sample 5 x 5 Colored Table: Box C

Change

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	Box C				Box B
High in Current Year					
Medium in Current Year					
Low in Current Year					
Very Low in Current Year	Box A				Box D

(Left axis label: Status)

Box C: What should be the color designation of a school with Very High Status and Decreased Significantly Change (upper left corner cell)?

Sample 5 x 5 Colored Table: Box D

Change

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	Box C				Box B
High in Current Year					
Medium in Current Year					
Low in Current Year					
Very Low in Current Year	Box A				Box D

Status

Box D: What should be the color designation of a school with Very Low Status and Increased Significantly Change (lower right corner cell)?

Sample 5 x 5 Colored Table: General

Change

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	Box C				Box B
High in Current Year					
Medium in Current Year					
Low in Current Year					
Very Low in Current Year	Box A				Box D

Status

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?

Tasks for the Board

Articulate guidance that will undergird the creation of the 5 x 5 tables that assign final indicator ratings to combinations of Status and Growth.

Combining Performance on Indicators to Generate an Overall Designation

Combining Performance on Indicators Aggregate for Overall Performance

▸ **The federal Every Student Succeeds Act (ESSA) requires,**

- **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)**

▸ **SB 158 requires that all schools receive an overall designation; the intent was that middle- and higher-performing schools would receive designations that distinguish them from each other, in addition to the federally required lower-performing designations (i.e., TSI and ATSI).**

Tasks for the Board

➢ **Decide how many overall designations of performance there should be.**

➢ **Decide how to communicate the overall designation.**

- Possible options for how to communicate overall performance include:
  - Numbers (e.g., Level 1-5); or
  - Word labels (e.g., Outstanding); or
  - Symbols (e.g., stars); or
  - Colors (SB 158 requires a color dashboard for indicators; a color for overall might be confused with the color for indicators.)

Weights of Indicators for Overall Performance 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.

➢ Index methods involve combining scores into an overall score or determination through a mathematical formula.

Tasks for the Board

What weights should be assigned to each indicator?

Note: There are federal constraints on the weights, primarily that the federal "School Quality/Student Success" indicator (e.g., Quality of School Climate and Safety, Transition Readiness) must have "substantially less weight" than the other indicators added together (e.g., Academic Proficiency, Academic Progress (including Separate Academic, Change), English learner progress, and Graduation rate).

Indicator Weights for Elementary/Middle

	KBE Recommended Accountability Weights for Elementary/Middle Schools				
	Past Accountability System			SB 158-Compliant System	
		Weight			Weight
Indicators	Proficiency: State Assessment Results for Reading and Mathematics	35%		Proficiency: State Assessment Results for Reading and Mathematics	
	Separate Academic Indicator: State Assessment Results for Science, Social Studies and Writing	26%		Separate Academic Indicator: State Assessment Results for Science, Social Studies and Writing	
	Growth (including English Learner Progress Toward English Language Proficiency)	35%		Progress Toward English Language Proficiency for English Learners	
	Quality of School Climate and Safety	4%		Quality of School Climate and Safety	
	Total	100%		Total	100%
				If data cannot be calculated for an indicator, the weights shall be redistributed proportionally to remaining indicators that shall be reported for the school or LEA.	

Indicator Weights for High School

	KBE Recommended Accountability Weights for High Schools				
	Past Accountability System			SB 158-Compliant System	
		Weight			Weight
Indicators	Proficiency: State Assessment Results for Reading and Mathematics	45%		Proficiency: State Assessment Results for Reading and Mathematics	
	Separate Academic Indicator: State Assessment Results for Science, Social Studies and Writing	15%		Separate Academic Indicator: State Assessment Results for Science, Social Studies and Writing	
	Transition Readiness (including English Learner Progress Toward English Language Proficiency)	30%		English Learner Progress Toward English language Proficiency	
				Postsecondary Readiness	
	Quality of School Climate and Safety	4%		School Climate and Safety	
	Graduation Rate	6%		Graduation Rate	
	Total	100%		Total	100%
				If data cannot be calculated for an indicator, the weights shall be redistributed proportionally to remaining indicators that shall be reported for the school or LEA.	

Progress Toward English Language Proficiency for English Learners

English Learners' Progress

▸ Consistent with the federal law, Kentucky determines the progress toward 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.

▸ This longitudinal growth measurement is required by federal law, and so measurement of English learners' progress Status and Change will differ from other indicators.

English Learners' Progress (continued)

▸ **Status will consist of the aggregate progress made by English learners in the school that year (i.e. Individual Students' Progress on EL Proficiency Exam).**

▸ **Change will consist of the difference between the progress made by the EL students in the most recent year compared with the preceding year (i.e. Change by School on the Indicator).**

▸ **USED has confirmed that this definition of EL progress is required by federal law.**

English Learner Growth Value Table

Previous Year	WIDA ACCESS Composite Score							
	Current 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

OAA: November 2020 KBE Study Session

Federal Flexibilities for EL Progress in Accountability

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.)

English Learner Data

Count by Students Identified EL by Age 2019-2020 Data	
Age when EL Identified	Count by Age
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
Total	33,867

2019-2020 EL and EL Monitored w/Interrupted Schooling Indication	
Grade Level	Student Count
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
Total	463

OAA: November 20

Tasks for the Board

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?

➢ Confirm that the allowed federal flexibilities should be incorporated into Kentucky's Accountability System.

Ensuring Appropriate Inclusion and Reliability Including Through Minimum-N

Inclusion, Reliability and Simplicity

Under the ESSA, states are responsible for setting the minimum number of students needed to form a student subgroup for federal accountability and reporting

Inclusion, Reliability and Simplicity (continued)

▸ **Kentucky has historically used a minimum-n of 10 students per grade that applies to schools and student groups.**

▸ **Factors to consider include:**

  - **Inclusion**

  - **Reliability**

  - **What is technically possible**

  - **Individual Privacy**

  - **Simplicity**

Tasks for the Board

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

➢ 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

Possible Considerations for Minimum-N

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)

Option 1: N-Count
10 Students Per Grade/Content or Group

- 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 1: N-Count

Reading and Mathematics (Grades 3-5)
N-Count = 10 Example, 10 Per Grade

Grade 3
- 12 Students

Grade 4
- 17 Students

Grade 5
- 14 Students

All three grade levels include at least 10 students, Indicator *is included* in Accountability

Grade 3
- 12 Students

Grade 4
- 7 Students

Grade 5
- 14 Students

Grade 4 does not include 10 students.
Indicator *is NOT included* in Accountability

Option 1: N-Count (continued)

Separate Academic = Science, Social Studies and Writing
N-Count = 10 Example, 10 Per Grade
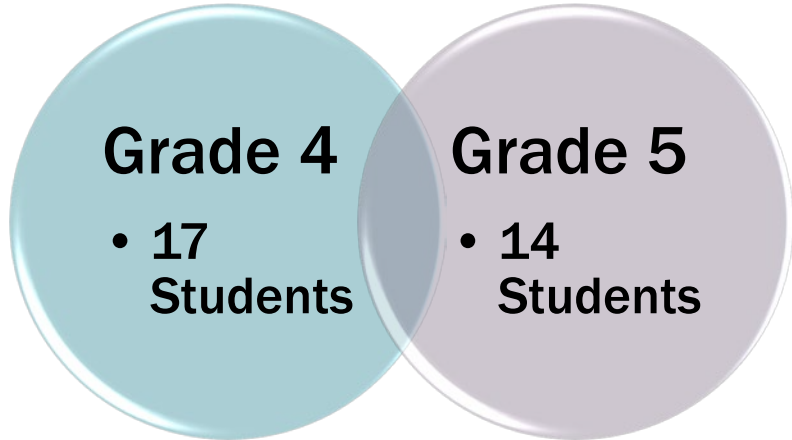
Grade 4
- 17 Students

Grade 5
- 14 Students

Both grade levels include at least 10 students, Indicator *is included* in Accountability

Grade 4
- 17 Students
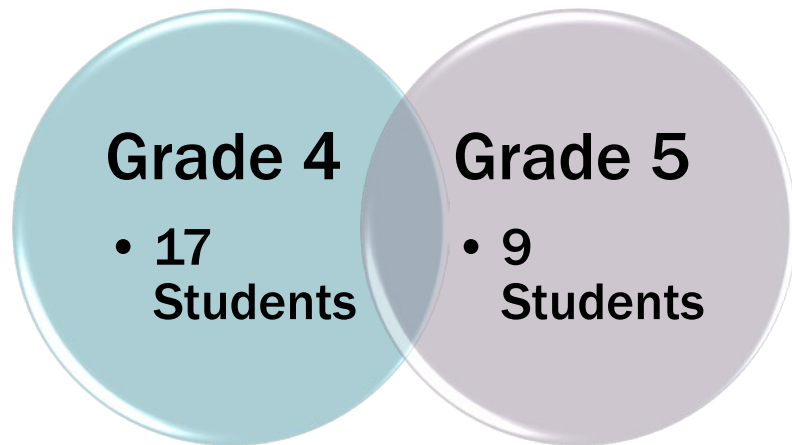
Grade 5
- 9 Students

Grade 5 does not include 10 students.
Indicator *is NOT included* in Accountability

Option 2: N-Count
All Students per School or Student Group

- Set the total number of students for the entire school between 10 and 30

- Change the balance to emphasize more reliability and less 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)

- Continue to report in the SRC at 10 per grade

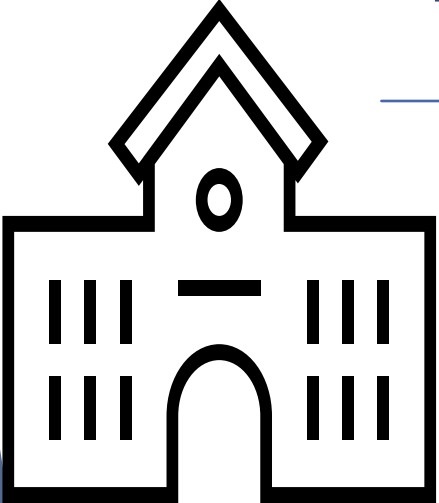# Option 2: N-Count (continued) All Students per School or Student Group
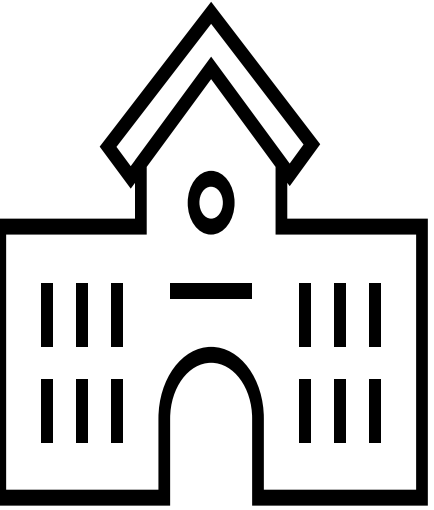
Reading and Mathematics (Grades 3-5)
N-Count = 30 Example

Grade 3 – 5 students

Grade 4 – 10 students

Grade 5 – 25 students

Exceeds 30 total students Indicator *is included* in Accountability

Grade 3 – 5 students
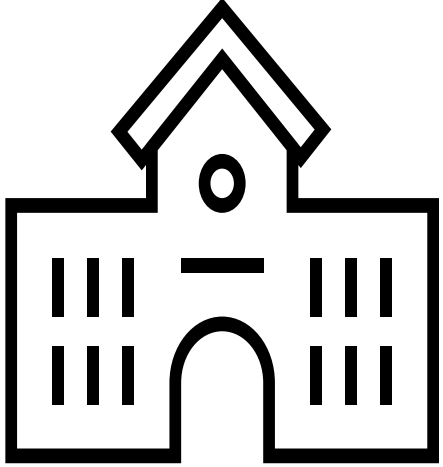
Grade 4 – 5 students

Grade 5 – 5 students

Less than 30 total students, Indicator *is NOT included* in Accountability

Note: N-Count larger than 30 may be problematic to get approved from USED.

Option 2: N-Count (continued)

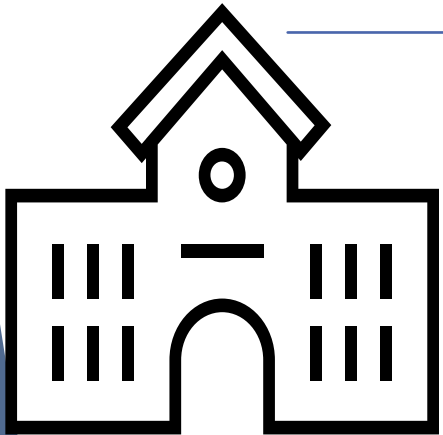Science (grade 4), Social Studies and Writing (grade 5)
N-Count = 30 Examples

Grade 4 – 35 students
Grade 5 – 5 students

Exceeds 30 total students Indicator *is included* in Accountability

Grade 4 – 5 students
Grade 5 – 5 students

Less than 30 total students, Indicator *is NOT included* in Accountability

Note: N-Count larger than 30 may be problematic to get approved from USED.

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)

Group	# Schools with at least one student1	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	Percent2	Number of schools compared to 10-per-grade3	Percent2	
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

1 All schools: elementary, middle, or high school
2 Percent of schools with at least one student in the corresponding group
3 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