Inclusion of the Illinois Science Assessment (ISA) in the State Accountability System

For the IL TAC Webinar

April 2, 2019

Context

Background

- The State ESSA plan calls for inclusion of the Illinois Science Assessment (ISA) in the state accountability system starting in 2019-2020
- Presently ELA and Math are weighted 10% each. With the inclusion of science, the weights are expected to shift to 7.5% for each of ELA and Math and Science would contribute 5%

Today's Discussion

- Review approach for calculating academic performance
- Examine ISA results compared to ELA and Math
- Discuss timing and method for inclusion of ISA results in the state accountability system

How is Academic Performance Calculated?

- **Determine percent proficient**
  - Number of students scoring proficient or better / number of students who tested (or 95% of students who should have tested, if higher)
- **Convert to an indicator score**
  - If % Proficient > Interim Target, Indicator Score = 100
  - If % Proficient is not greater than Interim Target, indicator score = % Proficient/ Target (for group and year) * 100
- **Compute for all students groups with n > or = to 20**
- **Example**
  - Percent proficient = 35%
  - Target = 45%
  - Indicator Score = 35/45 * 100 = 78

Table 2. *Comparison of Participation Rates (from 2018 Illinois State Report Card)*

ELA Participation

All	Male	Female	White	Black	Hispanic	Asian	Native Hawaiian /Pacific Islander	American Indian	Two or More Races	Students With IEPs	English Learners	Low Income
1,017,260	520,123	497,137	486,626	169,503	271,186	51,039	1,036	2,854	35,016	142,919	106,440	521,722
98%	98.1%	98.1%	98.3%	97.0%	98.2%	98.9%	97.5%	98.0%	97.8%	96.9%	98.7%	98.0%

Math Participation

All	Male	Female	White	Black	Hispanic	Asian	Native Hawaiian /Pacific Islander	American Indian	Two or More Races	Students With IEPs	English Learners	Low Income
1,020,683	521,922	498,761	487,140	169,521	272,992	52,057	1,051	2,885	35,037	142,911	110,540	523,904
98.0%	98.0%	98.0%	98.2%	96.9%	98.2%	98.9%	97.2%	97.9%	97.7%	96.9%	98.6%	98.0%

ISA Participation

All	Male	Female	White	Black	Hispanic	Asian	Native Hawaiian /Pacific Islander	American Indian	Two or More Races	Students With IEPs	English Learners	Low Income
426,608	217,043	209,565	208,207	66,876	113,680	22,099	452	1,165	14,129	52,325	32,340	206,136
95.2%	94.9%	95.6%	96.5%	91.1%	95.3%	96.6%	95.6%	94.8%	95.1%	90.6%	94.4%	93.7%

Table 2. *Comparison of Proficiency Rates (from 2018 Illinois State Report Card)*

ELA PROFICIENCY

All Students	Male	Female	White	Black	Hispanic	Asian	Native Hawaiian /Pacific Islander	American Indian	Two or More Races	Students With IEPs	English Learners	Low Income
373,532	160,882	212,650	227,977	29,576	67,203	33,470	463	833	14,010	12,783	11,564	115,196
36.7%	30.9%	42.8%	46.8%	17.4%	24.8%	65.6%	44.7%	29.2%	40.0%	8.9%	10.9%	22.1%

MATH PROFICIENCY

All Students	Male	Female	White	Black	Hispanic	Asian	Native Hawaiian /Pacific Islander	American Indian	Two or More Races	Students With IEPs	English Learners	Low Income
321,607	163,519	158,088	201,422	19,256	53,675	34,370	435	682	11,767	11,241	12,270	88,476
31.5%	31.3%	31.7%	41.3%	11.4%	19.7%	66.0%	41.4%	23.6%	33.6%	7.9%	11.1%	16.9%

ISA PROFICIENCY

All Students	Male	Female	White	Black	Hispanic	Asian	Native Hawaiian /Pacific Islander	American Indian	Two or More Races	Students With IEPs	English Learners	Low Income
215,229	106,179	109,050	129,557	17,623	43,209	16,338	269	503	7,730	10,024	4,347	72,825
50.5%	48.9%	52.0%	62.2%	25.3%	38.0%	73.9%	59.5%	43.1%	54.7%	18.3%	13.4%	34.9%

Center for Assessment

Table 3. 2018 *ISA Performance by Grade/ Content and Selected Student Groups*

	Grade 5	Grade 8	Biology
All	52.5	57.7	40.6
White	65.8	68.7	52
Black	27.6	34.2	15.8
Hispanic	40	46.5	26.9
Asian	77.1	79.2	65.4
Hawaiian/ Pacific Islander	67.9	61	50.6
Native American	44.7	49.9	35.8
Two or More Races	56.7	60.8	45.2
EL	16.5	15.7	4.9
IEP	22.1	22.2	11.4
Low Income	37.5	43	23.6

Table 4. *Three Year Trend in Proficiency – Grade 5 ISA*

	Grade 5 2016	Grade 5 2017	Grade 5 2018	Trend
All	57.5	54.1	52.5	
White	69.5	67.0	65.8	
Black	32.6	29.7	27.6	
Hispanic	45.7	41.5	40	
Asian	79.4	77.1	77.1	
P. Islander	66.9	61.3	67.9	
N. American	50.0	48.5	44.7	
Multi	59.7	57.7	56.7	
EL	17.1	13.6	16.5	
IEP	25.5	23.3	22.1	
Low Income	42.5	39.2	37.5	

Table 5. *Three Year Trend in Proficiency – Grade 8 ISA*
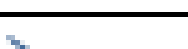
	Grade 8 2016	Grade 8 2017	Grade 5 2018	Trend
All	61.1	58.9	57.7	
White	71.1	69.4	68.7	
Black	38.5	35.7	34.2	
Hispanic	50.9	48.5	46.5	
Asian	82.1	81.1	79.2	
P. Islander	68.2	70.1	61	
N. American	55.2	52.1	49.9	
Multi	63.8	60.0	60.8	
EL	18.5	17.8	15.7	
IEP	24.0	23.1	22.2	
Low Income	47.0	44.9	43	

Table 6. *Three Year Trend in Proficiency – Biology ISA*

	Biology 2016	Biology 2017	Biology 2018	Trend
All	40.8	40.2	40.6	
White	51.9	52.0	52	
Black	16.2	15.2	15.8	
Hispanic	27.5	26.1	26.9	
Asian	62.6	63.3	65.4	
P. Islander	42.0	46.5	50.6	
Native American	38.0	32.1	35.8	
Multi	46.2	44.3	45.2	
EL	6.3	5.6	4.9	
IEP	11.8	10.8	11.4	
Low Income	24.5	23.4	23.6	

Table 7. *Illustration of Annual Targets – Grade 5 ISA*

	Baseline (3 Year Avg)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Annual Step
All	54.7	57.1	59.4	61.8	64.1	66.5	68.8	71.2	73.5	75.9	78.2	80.6	82.9	85.3	87.6	90.0	2.4
White	67.4	68.9	70.4	71.9	73.5	75.0	76.5	78.0	79.5	81.0	82.5	84.0	85.5	87.0	88.5	90.0	1.5
Black	30.0	34.0	38.0	42.0	46.0	50.0	54.0	58.0	62.0	66.0	70.0	74.0	78.0	82.0	86.0	90.0	4.0
Hispanic	42.4	45.6	48.7	51.9	55.1	58.3	61.4	64.6	67.8	71.0	74.1	77.3	80.5	83.7	86.8	90.0	3.2
Asian	77.9	78.7	79.5	80.3	81.1	81.9	82.7	83.5	84.3	85.1	86.0	86.8	87.6	88.4	89.2	90.0	0.8
P. Islander	65.4	67.0	68.7	70.3	71.9	73.6	75.2	76.9	78.5	80.1	81.8	83.4	85.1	86.7	88.4	90.0	1.6
N. American	47.7	50.6	53.4	56.2	59.0	61.8	64.6	67.5	70.3	73.1	75.9	78.7	81.5	84.4	87.2	90.0	2.8
Multi	58.0	60.2	62.3	64.4	66.6	68.7	70.8	73.0	75.1	77.2	79.3	81.5	83.6	85.7	87.9	90.0	2.1
EL	15.7	20.7	25.6	30.6	35.5	40.5	45.4	50.4	55.3	60.3	65.2	70.2	75.1	80.1	85.0	90.0	5.0
IEP	23.6	28.1	32.5	36.9	41.3	45.8	50.2	54.6	59.0	63.5	67.9	72.3	76.7	81.2	85.6	90.0	4.4
Low Income	39.7	43.1	46.4	49.8	53.1	56.5	59.8	63.2	66.5	69.9	73.2	76.6	79.9	83.3	86.6	90.0	3.4

Table 8. *Illustration of Annual Targets – Grade 8 ISA*

	Baseline (3 Year Avg)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Annual Step
All	59.2	61.3	63.3	65.4	67.4	69.5	71.5	73.6	75.6	77.7	79.7	81.8	83.8	85.9	87.9	90.0	2.1
White	69.7	71.1	72.4	73.8	75.1	76.5	77.8	79.2	80.5	81.9	83.2	84.6	85.9	87.3	88.6	90.0	1.4
Black	36.1	39.7	43.3	46.9	50.5	54.1	57.7	61.3	64.9	68.5	72.0	75.6	79.2	82.8	86.4	90.0	3.6
Hispanic	48.6	51.4	54.1	56.9	59.7	62.4	65.2	67.9	70.7	73.5	76.2	79.0	81.7	84.5	87.2	90.0	2.8
Asian	80.8	81.4	82.0	82.6	83.3	83.9	84.5	85.1	85.7	86.3	86.9	87.5	88.2	88.8	89.4	90.0	0.6
P. Islander	66.4	68.0	69.6	71.1	72.7	74.3	75.9	77.4	79.0	80.6	82.1	83.7	85.3	86.9	88.4	90.0	1.6
N. American	52.4	54.9	57.4	59.9	62.4	64.9	67.4	69.9	72.5	75.0	77.5	80.0	82.5	85.0	87.5	90.0	2.5
Multi	61.5	63.4	65.3	67.2	69.1	71.0	72.9	74.8	76.7	78.6	80.5	82.4	84.3	86.2	88.1	90.0	1.9
EL	17.3	22.2	27.0	31.9	36.7	41.6	46.4	51.2	56.1	60.9	65.8	70.6	75.5	80.3	85.2	90.0	4.8
IEP	23.1	27.6	32.0	36.5	40.9	45.4	49.9	54.3	58.8	63.2	67.7	72.2	76.6	81.1	85.5	90.0	4.5
Low Income	45.0	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0	3.0

Table 9. *Illustration of Annual Targets – Biology ISA*

	Baseline (3 Year Avg)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Annual Step
All	40.5	43.8	47.1	50.4	53.7	57.0	60.3	63.6	66.9	70.2	73.5	76.8	80.1	83.4	86.7	90.0	3.3
White	52.0	54.5	57.0	59.6	62.1	64.6	67.2	69.7	72.3	74.8	77.3	79.9	82.4	84.9	87.5	90.0	2.5
Black	15.7	20.7	25.6	30.6	35.5	40.5	45.4	50.4	55.3	60.3	65.2	70.2	75.1	80.1	85.0	90.0	5.0
Hispanic	26.8	31.0	35.3	39.5	43.7	47.9	52.1	56.3	60.5	64.7	68.9	73.2	77.4	81.6	85.8	90.0	4.2
Asian	63.8	65.5	67.3	69.0	70.8	72.5	74.3	76.0	77.8	79.5	81.3	83.0	84.8	86.5	88.3	90.0	1.7
P. Islander	46.4	49.3	52.2	55.1	58.0	60.9	63.8	66.7	69.6	72.5	75.5	78.4	81.3	84.2	87.1	90.0	2.9
N. American	35.3	38.9	42.6	46.2	49.9	53.5	57.2	60.8	64.5	68.1	71.8	75.4	79.1	82.7	86.4	90.0	3.6
Multi	45.2	48.2	51.2	54.2	57.2	60.2	63.1	66.1	69.1	72.1	75.1	78.1	81.0	84.0	87.0	90.0	3.0
EL	5.6	11.2	16.9	22.5	28.1	33.7	39.4	45.0	50.6	56.2	61.9	67.5	73.1	78.7	84.4	90.0	5.6
IEP	11.3	16.6	21.8	27.1	32.3	37.6	42.8	48.0	53.3	58.5	63.8	69.0	74.3	79.5	84.8	90.0	5.2
Low Income	23.8	28.2	32.7	37.1	41.5	45.9	50.3	54.7	59.1	63.5	67.9	72.4	76.8	81.2	85.6	90.0	4.4

Illustrative Examples

- **Calculated Indicator Scores for Grade 5 and Biology for**
  - **All Students**
  - **IEP**
  - **Low Income**
- **Applied baseline (3 year average, 2016-2018) as target**
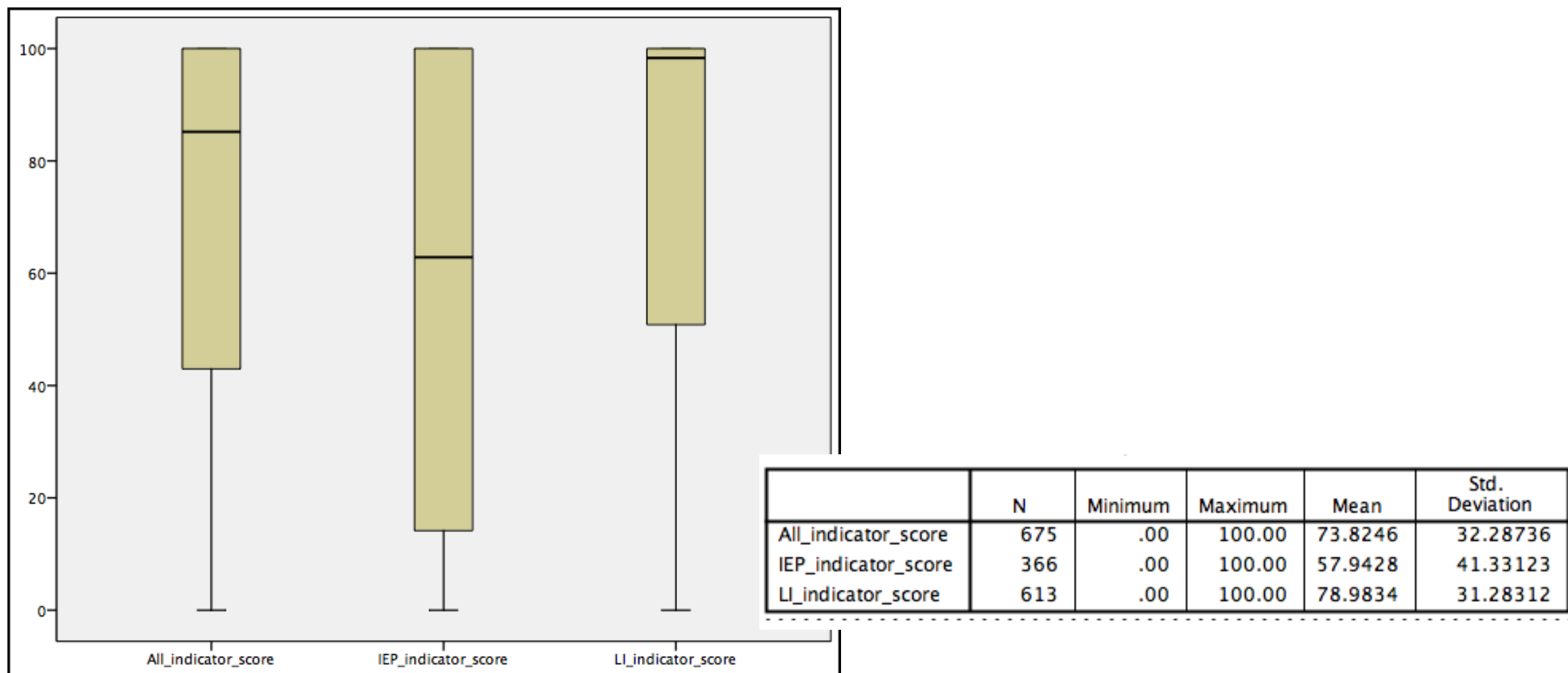- **Display box plots**

Figure 1. Illustrative Distribution of Grade 5 Science Indicator Scores with Baseline as 2018 Interim Target
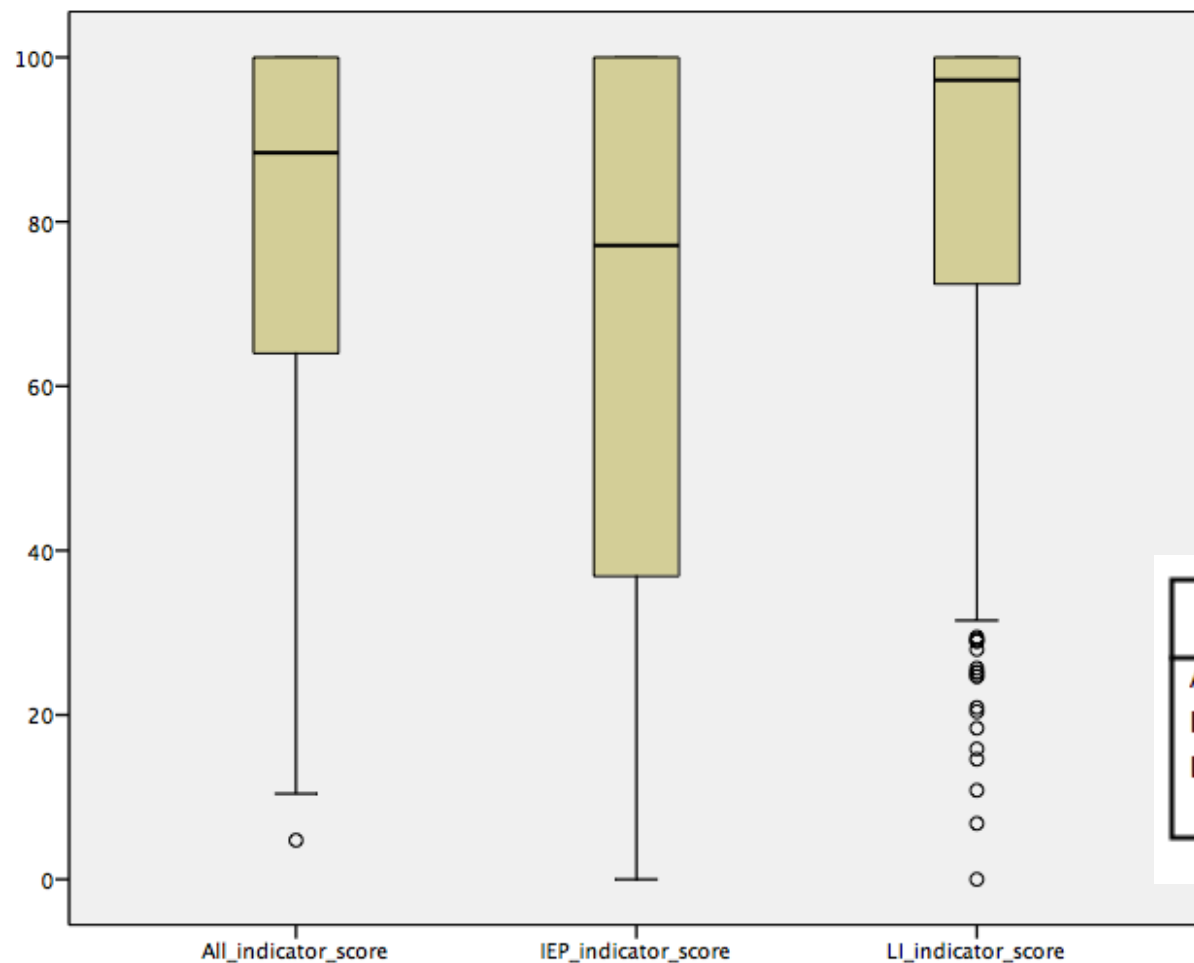
Many schools received a score at or near 100 because many schools are at or near the baseline

	N	Minimum	Maximum	Mean	Std. Deviation
All_indicator_score	2006	.00	100.00	80.4859	24.75461
IEP_indicator_score	788	.00	100.00	68.3139	34.76212
LI_indicator_score	1729	.00	100.00	83.3929	22.80611

Figure 2. Illustrative Distribution of Biology Science Indicator Scores with Baseline as 2018 Interim Target

	N	Minimum	Maximum	Mean	Std. Deviation
All_indicator_score	675	.00	100.00	73.8246	32.28736
IEP_indicator_score	366	.00	100.00	57.9428	41.33123
LI_indicator_score	613	.00	100.00	78.9834	31.28312

Questions for the TAC

- Does the TAC see any reason why the approach for computing academic performance for science should be distinguished from that used for ELA and Math?

- Does the TAC have any recommendations regarding the timing of including science test performance in the accountability model?

- What additional information would the TAC like to see to inform their decision?