Why Growth Matters

December, 2016

Objectives

- Explain the importance of student growth and why it matters in an accountability system
- Introduce and discuss which type of growth should be used in Illinois's accountability system
- Introduce the concept of Growth to Proficiency for English Learners
- Introduce and discuss whether or not high school growth should be measured and how that might be achieved

Every accountability system has a multistep process to recognize and assist districts

1. A set of measures to identify schools for support

2. A process to contextualize the school and understand the factors that drive performance

3. An appropriate plan for support and intervention

ESSA allows states to use the following metrics to identify schools for support

- Academic Achievement
- Academic Growth
- Graduation Rate
- English Language Proficiency
- School Quality

What does it mean to identify a school?

- Identifying a school or district means recognizing challenges and highlighting opportunities to provide support

- Regardless of whether ISBE adopts ratings, categories, or a data dashboard, the state needs a systemic way to identify districts and provide individualized supports

- To systematically identify schools, the system looks at their attributes relative to the areas required in ESSA. For example, schools might have the following attributes:

  → School 1: High proficiency, low growth, low school quality
  → School 2: Low proficiency, high growth, medium school quality
  → School 3: Low proficiency, low growth, medium school quality

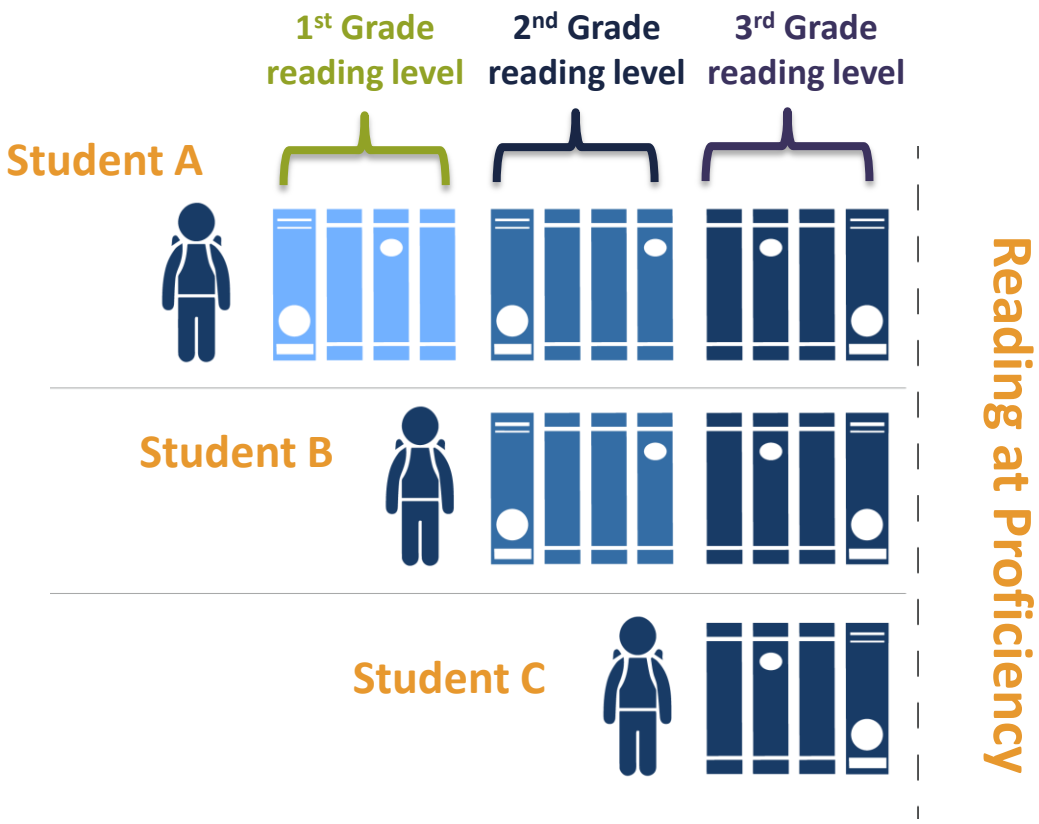
*Other characteristics required include subgroup performance, English Language proficiency and graduation rates

- With such variety, *differentiated supports* are particularly important, because schools need assistance in different areas. The state will need to determine the appropriate approach to collecting more information on these schools and proving supports.

Why does growth matter?

- Growth can help us identify schools that need support
- If ALL students aren't progressing at a reasonable rate, the accountability system needs to identify areas of improvement within schools and districts, and offer the appropriate supports
- There are *different* types of growth measures, each provides slightly different types of information about schools and that information can inform appropriate supports.

Why is growth valuable in an accountability system?



- NCLB used proficiency – a static measure, based on a test score -- as its main accountability metric
- But, schools don't always have control over their students' starting levels
- Students may have to make different amounts of progress to reach proficiency
- A growth metric is an opportunity to capture the progress students make, regardless of whether they reach proficiency

TYPES OF GROWTH

ISBE Accountability Workgroup: Technical Steering Committee

- ISBE's Accountability Workgroup: to gather feedback and insight into the development of the accountability system
  - →Diverse representation across 23 organizations/groups (e.g. management, advocacy, educator representatives, districts, superintendents, parents, legislative affairs)
  - →Convened August 2016
- Technical Steering Committee: subset of the Accountability Workgroup, with focus on understanding differing approaches to student academic growth
  - →Convened October/November 2016
  - →Purpose: "Research and development;" to understand and guide various statistical treatments to student growth to report back to the broader Accountability Workgroup

ISBE Accountability Workgroup: Technical Steering Committee

- Guiding Questions:
  - →Which approaches to student academic growth have appeal and which ones do not? Why or why not?
  - →Are there additional approaches to student academic growth that stakeholders would like to see explored? If so, what are the additional approaches?
- Proxy/Simulated Data:
  - →Sample data set that mirrors IL demographic and enrollment patterns
  - →Necessary to compensate for inconsistencies/incomplete ”actual” student data
- External Validators: National Center for the Improvement of Educational Assessment, Learning Policy Institute, Ed Trust, Chicago Consortium
  - →Provide technical feedback and guidance for analysis

ISBE Accountability Workgroup: Technical Steering Committee

- Requested several approaches to growth:
  - →Value Tables;
  - →Student Growth Percentiles
  - →Growth to Proficiency (GTP)
  - →Hybrid/Blended Modeling
  - →Regression Models and Hierarchical Linear Modeling
- ***Very simplified*** modeling exercise to demonstrate differences between treatments and decision points that must be addressed in pursuing each approach, as part of a broader accountability system

Different Types of Growth – Value Tables

- Provide an easy to understand approach to understanding students' growth towards proficiency

			PERFORMANCE LEVEL, Y2									
			Academic Warning		Below Standards		Meets Standards		Exceeds Standards		Exceptional	
			1A	1B	2A	2B	3A	3B	4A	4B	5A	5B
PERFORMANCE LEVEL, Y1	Academic Warning	1A	50	100	125	145	165	180	185	190	195	200
		1B	30	80	115	140	160	175	185	190	195	200
	Below Standards	2A	20	45	80	115	150	165	180	180	185	190
		2B	20	25	65	90	120	150	170	175	180	185
	Meets Standards	3A	10	15	35	70	90	120	150	160	170	175
		3B	10	10	20	35	75	100	125	135	160	165
	Exceeds Standards	4A	10	10	15	25	50	85	110	125	145	150
		4B	0	5	10	15	30	60	95	120	135	150
	Exceptional	5A	0	0	5	10	25	50	85	110	130	145
		5B	0	0	0	5	20	40	75	100	125	140

- A school receives points for moving students from one level of performance in Year 1 (Y1) to Year 2 (Y2)

Different Types of Growth – Student Growth Percentiles (SGP)

- Provides percentile rank (e.g. 60th percentile or 30th percentile) for each student based on their growth compared to the growth of students with similar scores the prior year
- Two different approaches:
  - →SGP calculated as percentile rank for each student within a cohort of students scoring EXACTLY THE SAME on the prior year E.g. a student scoring 710 points would be compared to other students scoring exactly 710 points.
  - →SGP calculated as percentile rank for each student's within a cohort of students scoring with +/- 5 points on the prior year E.g. a student scoring 710 points would be compared to other students scoring between 705 and 715 points.

Different Types of Growth – Growth to Proficiency

- Provides credit to schools based on whether the students growth in a single year is enough to allow the student to be proficient in a set period of time.
- For example, if a score of 750 is proficient and a student has a score of 650 in year 1 and 675 in year 2 then the student could be projected to be proficient in year 5.
- The school would get more credit for a student that was projected to be proficient than one that is not.
- This metric is quite dependent on the number of years allowed for the projection
  - →In the example above a student would not be projected to be proficient if the projection time was 4 years.

Different Types of Growth – Hybrid OR Blended, Weighted Approach

- A very simple approach to "blend" multiple growth measures
  - →GTP and Value Tables provide information about whether students are making progress to proficiency
  - →SGP and Regression/HLM provide information about how students are growing in comparison to their peers
- Both pieces of information are useful and a hybrid would balance these two components

Different Types of Growth – Regression Models and Hierarchical Linear Modeling

- A more sophisticated approach to using multiple growth measures as conditional or "nested" instead of blended
- Provides a comparison of the expected score of a student and the predicted score for a student "controlling" for characteristics of the student including their prior score
- The allows a school to be measured on its performance with similar students (beyond just their prior score)
- Hierarchical Linear Modeling can allow for comparisons based on characteristics not just of students, but of school as well
  - →There are other approaches that can account for organizational attributes but they are less accurate than HLM

ISBE Accountability Workgroup: Technical Steering Committee

Model	Overview	Advantages	Disadvantages	Best Fit?
Linear Models/Student Growth Percentiles (SGPs)	Compare student achievement data across time. Ex: "student X scored better than Y percent of students with identical/similar scores on the prior year's exam."	Easy to calculate and aggregate Easily understood by field and public With other measures, can provide multidimensional picture of school quality by looking at achievement and growth.	High measurement error	Designed to answer very specific question – How much progress did a single student make from one year to the next? – so best to use in conjunction with other methods.
Value Tables	Compare student achievement data across time, but using a different formula than SGPs (not student rankings; rather, performance levels).	Same as SGPs above.	Even higher measurement error than SGPs.	Like SGPs, designed to answer specific questions – How has a student grown in terms of transitions through performance level categories over time? In which category will the student likely be in the future? – so best to use in conjunction with other methods.

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Model	Overview	Advantages	Disadvantages	Best Fit?
Growth-to-Proficiency	Used to backward map toward the determined score over time. Students evaluated based on whether they are on track over time. Designed to measure whether each student is currently on a trajectory that will result in proficiency by a target grade (or the extent to which this is true).	Span multiple years Allow school to receive “credit” for addressing the needs of the school’s specific population Easily understood by field and public Flexible enough to integrate different concepts of growth	High error, though lower than SGP. Best accuracy with large sample sizes.	Does not compare students' progress to others in similar score-bands or profiles, as it is only concerned with each student's trajectory relative to pre-set definitions of "proficiency."
Hybrid	Combines multiple approaches	Increased flexibility when looking at data, and may better represent the reality of growth	Hard to balance use of growth measures More difficult to explain to the public	How to situate growth in a space between individual measures?

Findings to Date and Next Steps

- The first three student growth treatments measure something different than student proficiency (i.e. test scores)
  - → Each approach alone carries significant room for error
- A blended/"hybrid" model – using growth measures that "capture" a different aspect of growth can provide a more nuanced approach to growth
  - → While complexity increases accuracy, it is harder to explain to a lay audience, and may limit perceptions of "transparency"
- HLM -- requires a larger, "cleaner" data-set, and addressing several embedded decision rules as part of each component

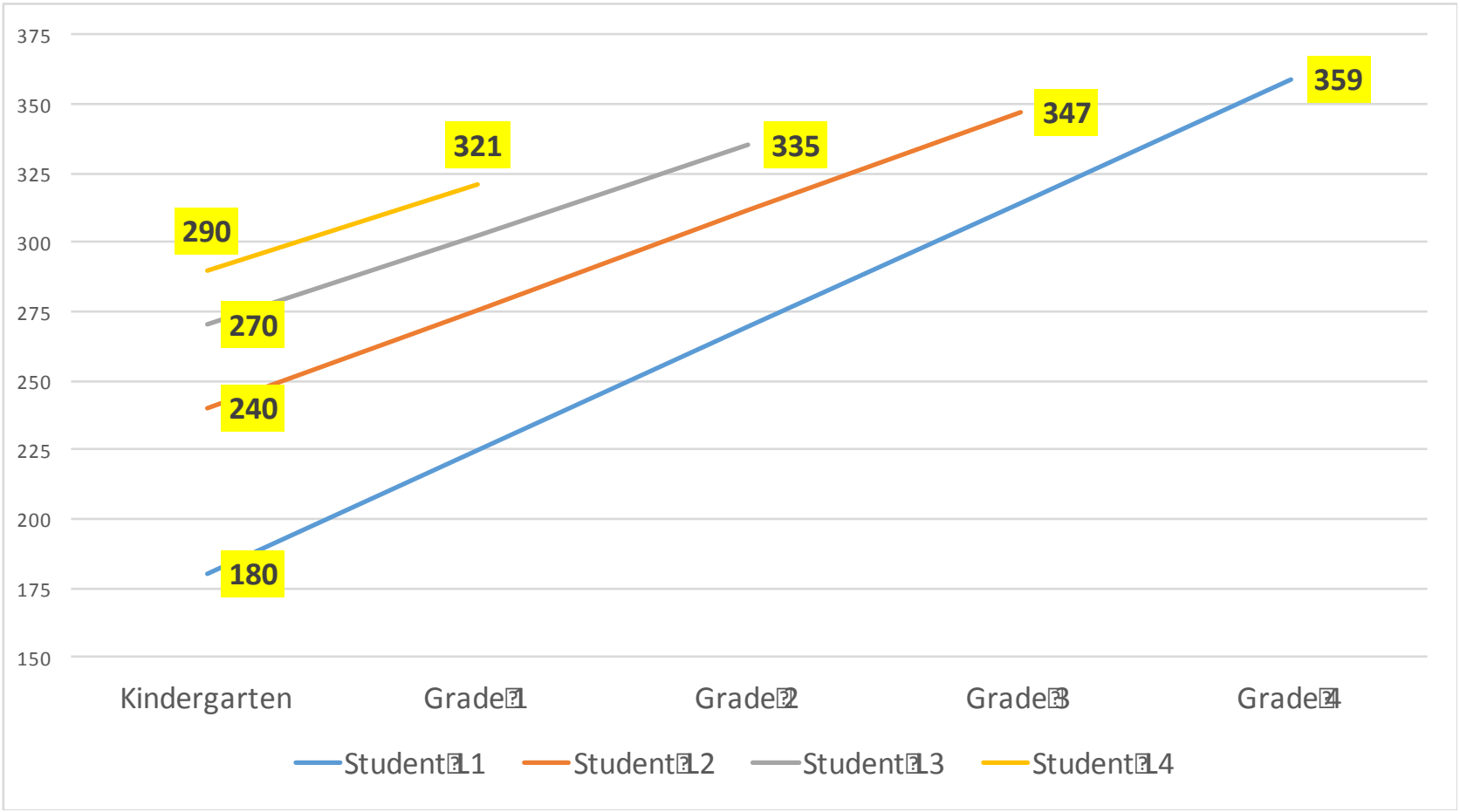
- Next Steps
  - → Apply formulas to "real data" as available
  - → ISBE to get feedback on the strongest/preferred approach to student growth as part of the full accountability system
  - → ISBE to integrate findings/recommendations into Draft #3

Growth To Target for English Proficiency

- A potential method of complying with the long-term, interim, and EL accountability indicator requirements
- Conceptually – a calculation of where an EL student starts in their language proficiency and where they should be in X number of years.

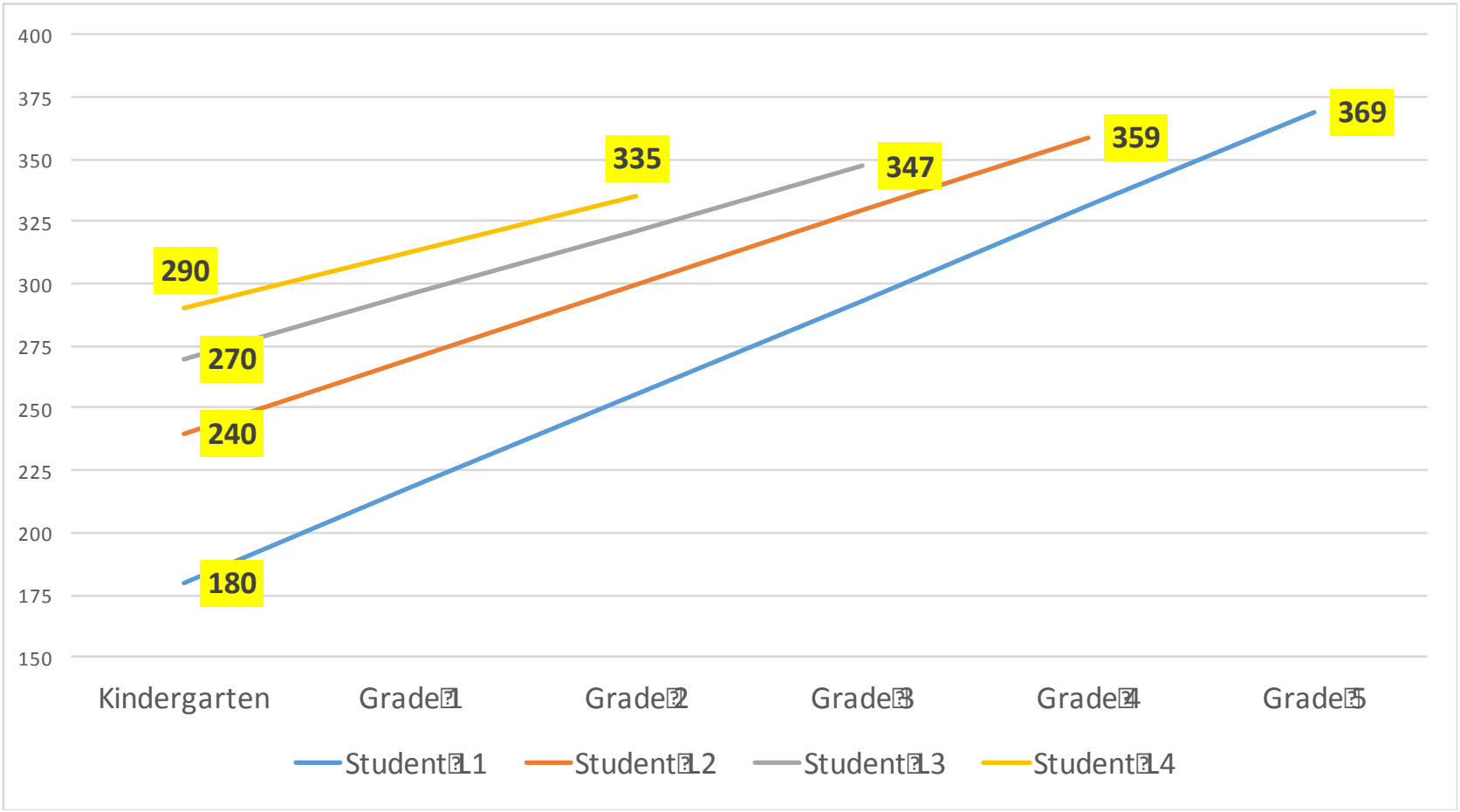
Sources: WIDA and Latino Policy Forum Analysis, K. Garibay-Mulattieri, kgaribay-mulattieri@latinopolicyforum.org

Growth to Target 4-years



Sources: WIDA and Latino Policy Forum Analysis, K. Garibay-Mulattieri, kgaribay-mulattieri@latinopolicyforum.org

Growth to Target 5-years



Sources: WIDA and Latino Policy Forum Analysis, K. Garibay-Mulattieri, kgaribay-mulattieri@latinopolicyforum.org

Subgroup Progress

- ESSA was born out of ESEA's civil rights imperative, to ensure educational equity for historically disadvantaged students.
- When an accountability system only considers proficiency, it highlights disparate outcomes, and provides little insight into mediating factors within the school's control.
- This could lead the system to incorrectly oversimplifies challenges and prescribe solutions that overlook and thus do not adequately consider the teaching and learning supports that students need.
- Considering growth in an accountability system is a useful tool to ensure that schools with students from traditionally underserved groups receive *appropriate* and *effective* supports.

Measuring Growth in High School

Background:

- Growth is allowable as an academic metric in high school
- High school accountability has generally not used growth metrics, in particular, because federal law only requires one year of assessment in high school
- Since academic measures will need to be a "substantially-weighted" portion of the accountability system for all schools, growth, proficiency, and ELP will account for at least 50% of the overall accountability system
- If growth is not included in the system, the system will have to lean more heavily on proficiency.
  - → As in elementary schools, high schools tend to have less control over proficiency rates than growth

Measuring Growth in High School

Considerations:

- There are multiple approaches to measuring growth in the high school
- It may be possible to consider growth in high school using existing assessments
  - →For example from 8th grade to 11th
  - →This can be complicated by factors such as student mobility
- Another option is to administer another assessment in high school
  - →SAT provides both the PSAT and PSAT 8/9
  - →This does require more assessment, but provides students with experience with this important assessment for college
    - It is worth noting that PSAT also allows students access to scholarship opportunities

Questions?