

BESE Accountability Work Group Serving as the Growth Technical Advisory Panel

November 3, 2023 1pm – 4pm



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Agenda

- 1:00 Welcome and Introductions
- 1:10 Review of Selected State Growth Models
- 2:30 Break
- 2:45 Identify Growth Model Priorities
- 3:45 Public Comment
- 4:00 Adjourn



Introductions

- Louisiana State Board of Elementary and Secondary Education (BESE) Members
- Louisiana Department of Education (LDOE)
- Growth Technical Advisory Panel (G-TAP) Members



Review of Selected State Growth Models



Common Approaches to Growth

Model	Key Question
Gain Score	What is the magnitude of progress on a vertical scale?
Growth to Standard	Is the student's progress 'on-track'?
Categorical (Value Table)	Has the student transitioned from one performance category to another?
Growth percentile	How does the student's growth compare to his or her 'academic peers'?
Regression or Value- added*	Controlling for selected factors, has the student grown more or less than expected?

* Value-added is more a verb than a noun, it describes a use-case intended to isolate effects, which can be applied to multiple models.

What models are states using for accountability?



Growth Model	Count	States
Student Growth Percentiles	23	AZ, CO, DC, GA, HI, IA, IN, MA, MD, MI, NV, NH, NJ, NM, NY, OR, RI, SD, UT, VT, WA, WI, WY
Value-Table	12	AK, FL, IN, KY, ME, MN, MS, NE, OK, TN, VA, WV
Growth to Standard	10	AZ, CT, ID, IN, KY, LA, MI, NV, SD, UT
Value Added	9	AR, LA, MO, NM, NC, OH, PA, SC, TN
Gain Score	3	AL, ND, TX
Other	3	DE, IL, MT

Data Quality Campaign (January, 2019) Growth Data, It Matters and It's Complicated

www.nciea.org



Student Growth Percentiles

- Student Growth Percentiles (SGP) is a regression-based measure of growth that works by conditioning current achievement on prior achievement and describing performance relative to other students with identical prior achievement histories.
- This provides a familiar basis to interpret performance the percentile - which indicates the probability of that outcome given the student's starting point.
- This can be used to gauge whether or not the student's growth was atypically high or low
- If one removes the covariates from Value Added Models (VAM), such as the approach used in Louisiana, the method is very similar to SGP.

Betebenner, D. W. (2009). Norm and criterion-referenced student growth. Educational Measurement: Issues and Practice, 28(4):42–51.



Conditioning on Prior Performance - Illustration



Create a distribution for each prior year scale score (i.e., an 'academic peer group') and examine the distribution of outcomes for each of these groups.

For example, examining all students scoring 600 in the prior year, one observes that a score of 620 in the current year is at the 75% percentile.



Inclusion in Accountability

- There are many options for how to include SGP or VAM results in accountability
- We'll look at two distinct approaches
 - Illinois: norm-referenced
 - Michigan: criterion-referenced or growth to standard



Illinois (1)



- Growth is weighted 50% for Elementary and Middle Schools
- Baseline SGPs are used



Illinois (2)



- Median SGPs are translated to scores so that the 'observed range' of school growth scores earn points between 0-100.
- For example, if more than 95% of schools earn a median growth percentile between 28 and 73 then the growth points are scored so that:
 - 28 (the floor) = 0
 - 73 (the ceiling) = 100
- This ensures the intended weights are honored



Michigan



- Michigan also uses SGPs but growth points are awarded based on the percent of students who
 - Move from non-proficient to proficient OR
 - Meet their adequate growth percentile (AGP) target.
- Students who meet the AGP target are on a path to reach proficiency in 1 to 3 years.
- AGP answers the question, "What rate of growth is required to maintain or reach proficiency in X years?"
- Although not used in Michigan, it's also possible to set a growth target for moving from proficient to advanced using the same methodology



Value Tables

- Value Tables may also be described as transition tables or categorical growth
- The method involves:
 - Establish growth categories, presumably based on meaningful performance thresholds
 - Assign points for progression from one category to the next in subsequent years
- It's common to establish categories by using the assessment performance levels, some or all of which may be divided into sub-levels as we'll see in the following examples
- The points awarded to progression are based on policy values (e.g., the state may wish to award more points for moving from non-proficient to proficient compared to maintaining proficient).



Mississippi (1)

READING	MATH	SCIENCE	ENGLISH LANGUAGE PROGRESS
Proficiency 95 pts	Proficiency 95 pts	Proficiency 95 ртs	Progress to Proficiency 35 PTS
Growth All Students 95 PTS	Growth All Students 95 PTS		
Growth Lowest 25% 95 pts	Growth Lowest 25% 95 pts		

- Growth is calculated in elementary and middle school and accounts for about 55% of a school's possible score
- Note that growth is computed separately for 1) all students and 2) the group of students earning scores in the lowest 25% at each school



Mississippi (2)



- Earning points:
 - Progressing one level
 = 1 point
 - Progressing two or more levels to proficiency = 1.25 points
 - Progress to (or maintaining) level 5 = 1.25 points
- Points are aggregated to the school level



Alaska

	Current	Current	Current	Current	Current	Current	Current	Current
Previous	Year	Year	Year	Year	Year	Year	Year	Year
Year	FBP Low	FBP High	BP Low	BP High	P Low	P High	A Low	A High
FBP Low		✓	~	~	~	~	~	~
FBP High			~	~	~	~	~	~
BP Low				~	~	√	~	1
BP High					~	✓	~	1
P Low					1	✓	✓	1
P High					1	✓	✓	✓
A Low							✓	✓
A High							✓	✓

Note: FBP = Far Below Proficient; BP = Below Proficient; P = Proficient; A = Advanced

- Growth accounts for 40% of school scores
- Growth is calculated as the percent of students who meet their growth target
- Targets are based on:
 - progressing one level for students below proficient
 - maintaining proficienct or advanced performance



Gain Score

- Based on evaluating the difference between current and prior year achievement
- Requires a vertical scale
- Example: Delaware growth computation

ELA Scale Score _{Current Year} – ELA Scale Score _{Previous Year}	x 100	
Growth Target		
Minimum Score = 0 and Maximum Score = 110		

Note: Delaware's approach is a hybrid of multiple approaches insofar as the gain score is then compared to a growth target which is based on the 60th percentile of expected growth for eight performance bands



Discussion

- What are the strengths and limitations of the models we reviewed?
- Are there growth approaches or features we didn't review that we should consider?
- What additional information would be helpful to explore growth alternatives?



Growth Model Priorities



Overview

- In order to provide principled feedback about the growth approaches that are most promising we need to clarify what we value and why
- In this section, we'll consider some guiding questions to elicit the panel's priorities with respect to:
 - Policy Considerations
 - Practical Considerations
 - Technical Considerations



Policy Considerations

- What are the most important growth questions to answer?
 - Is this student's growth similar to his or her academic peers? (norm-referenced)
 - Is this student growing at rate to reach or maintain proficiency (or another standard) in a reasonable time frame? (growth to standard)
 - Other?
- For the most important growth questions, what is the definition of 'good enough' growth?
- What growth information is most helpful at the <u>student level</u> to inform and incentivize improvement?
- How should growth be used in accountability to help support continuous improvement of Louisiana's schools?
 - What is good enough growth for an A?
 - What is the relationship between status and growth? For example, if no (or few) students are proficient but growth is an 'A,' what grade should the school receive?
- Should the model include background factors? How does that support or inhibit the purposes and uses identified in the previous questions?
- Are there certain outcomes that are particularly important to detect or incentivize (e.g., growth for students below proficiency)?
- Are there certain outcomes or uses to guard against?



Practical Considerations

- To what extent is the model easy to understand?
 - More simple model may be easier to understand and apply
 - Too much emphasis on simplicity could work against other priorities
- To what extent can the model be implemented?
 - It's important to be aware of the resources required to stand-up the model (e.g., personnel, funds).
- To what extent is the model transparent and configurable?
 - Should the model be open access or are proprietary solutions acceptable?



Technical Considerations

- Candidate criteria
 - There is an established record of credible evidence to support the model
 - Growth estimates are sufficiently precise
 - The model is sufficiently sensitive to changes across the distribution of performance
 - Floor/ ceiling effects are minimized
 - Results can be meaningfully compared
 - Other?



Public Comment