

Academic Growth Model Indicator Update

State and Federal Program Directors Meeting

March 16, 2018



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Topics

- Dashboard Alternative Schools Status (DASS)
- Growth Model

DASS

- DASS schools will receive a 2018 Dashboard with modified methods, where appropriate.
- Modified methods under consideration
 - One-year graduation rate
 - Modified CCI Career measures
- The 2018-19 application process will open April 2018 (new streamlined process).
 - Notifications will be sent to accountability coordinators

Growth Model Timeline

- **March 2015:** Development of new integrated local, state, and federal accountability system
- **February 2016:** SBE Information Memo
 - Overview of different student growth models
- **June 2016:** SBE Information Memo
 - Progress Update
 - School/District-Level Accountability Model vs. Individual Student-Level Growth and Performance
- **January 2017:** SBE Discussion
 - Discussed criteria for selecting a growth model used for school and district accountability

Growth Model Criteria

- SBE Selection Criteria for a Growth Model
 - Conform to rigorous technical standards
 - Capable of being included in accountability systems
 - Provide a measure of academic growth across the continuum of performance
 - Provide for inclusion of all students
 - Provide information on academic progress that is easily communicated to educators and the public

Growth Model Simulations

- **June 2017: SBE Information Memo**
 - Selection of 3 growth models for ETS simulation
 - Change in Distance to Met (CDTM)
 - Conditional Percentile Ranks of Gain Scores (CPR)
 - Residual Gain (RG)
- **February 2018: SBE Information Memo**
 - ETS Analysis Paper

Data Used for Analysis

- Spring 2016 CAASPP Smarter Balanced (ELA) and mathematics test scores
- Corresponding Spring 2015 test scores from those same students

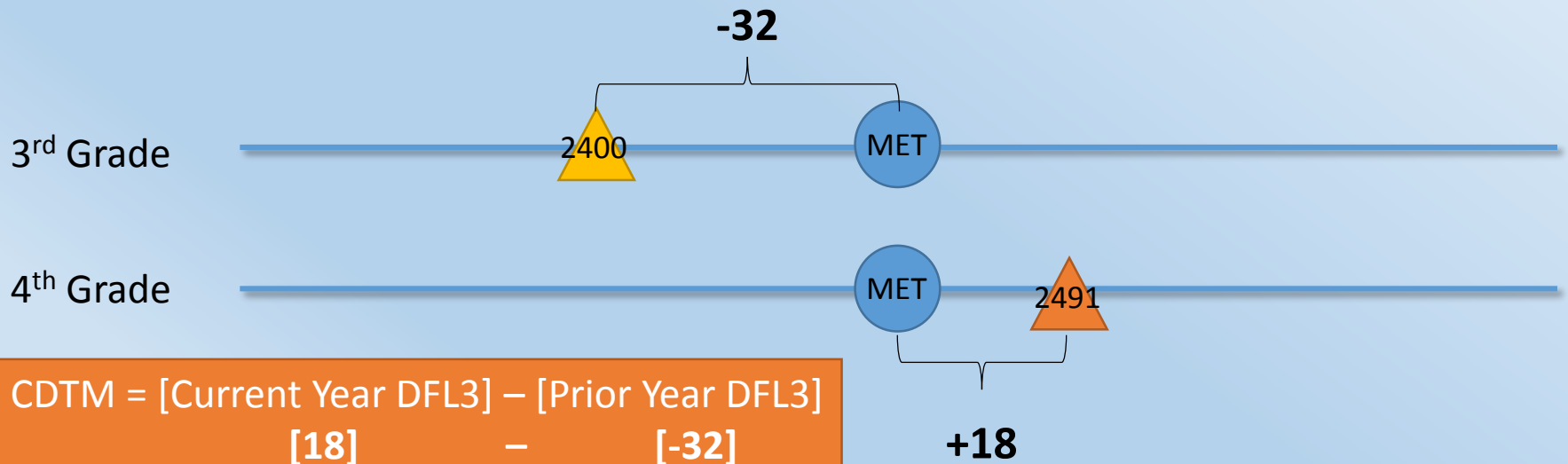
Goal of the Analysis

- Use the statistical properties to identify advantages and disadvantages of the three candidate growth measures for use in California's accountability system.
- Evaluating the three growth measures on:

CRITERIA
Strength of relationships with background characteristics
Sensitivity to school configuration and assessment content area (mathematics and ELA)
Statistical precision

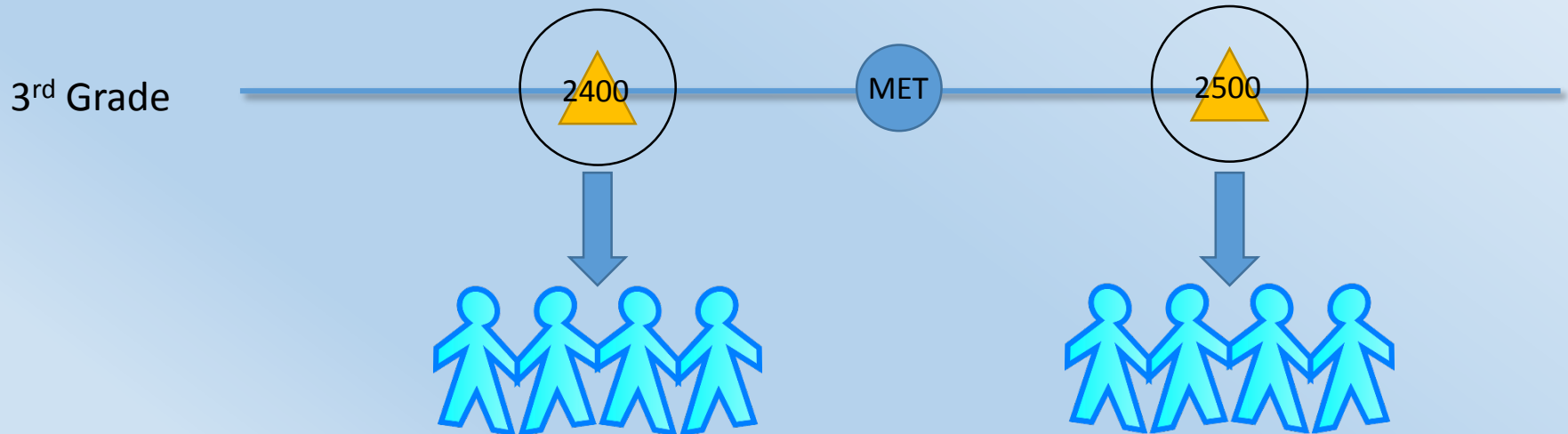
Change in Distance to Met (CDTM)

- CDTM determines if a student is scoring higher relative to the proficiency threshold (“Met”) in the current year than in the previous year.

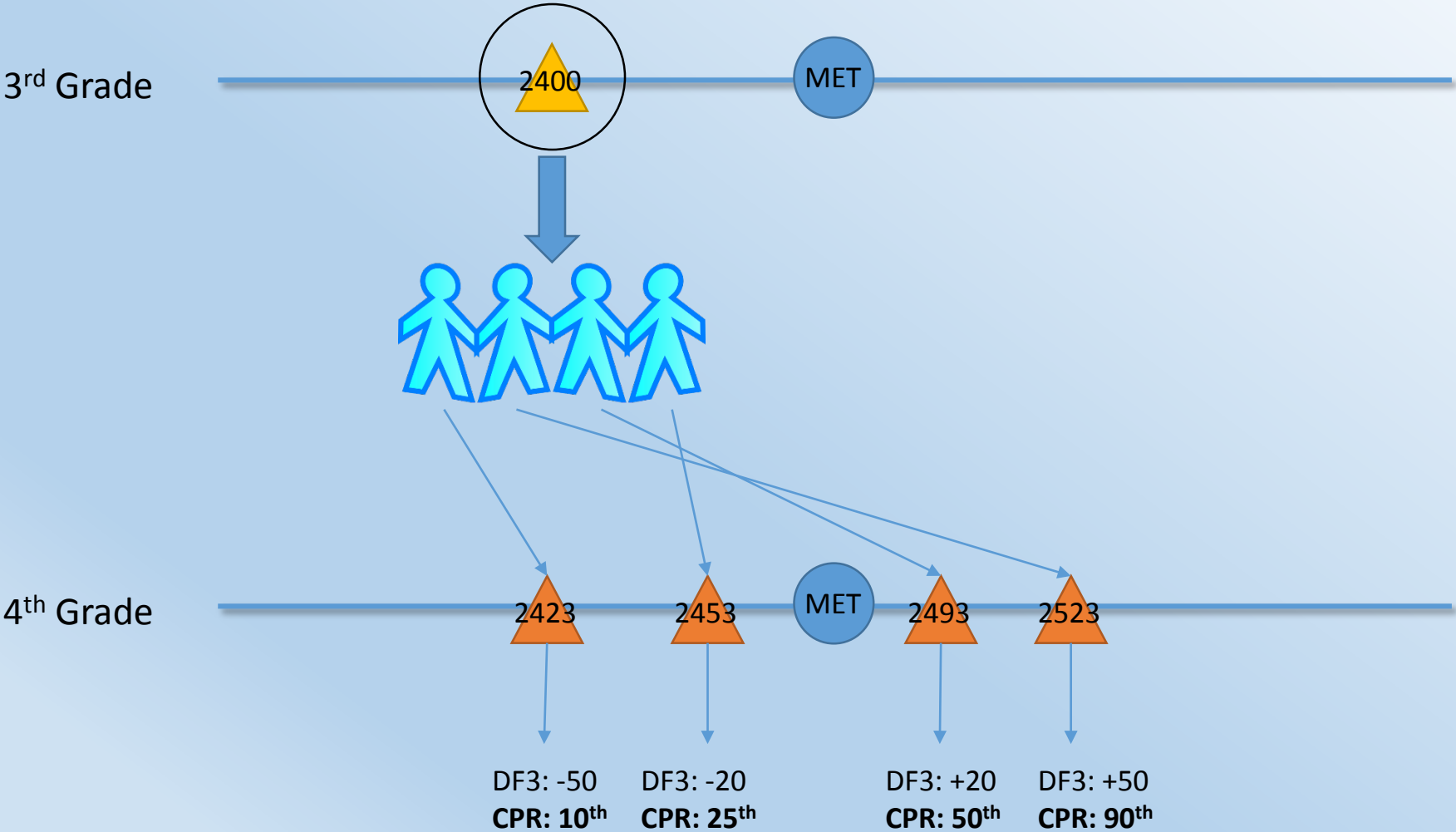


Conditional Percentile Rank (CPR)

- CPR provides a relative measure of student growth on the percentile rank scale.
 - i.e. Ranking students who scored X in 3rd grade within percentiles based on their 4th grade test scores



Conditional Percentile Rank (CPR) (cont.)



Conditional Percentile Rank (CPR) (cont.)

3rd Grade

MET

2500



4th Grade

MET

2493

2523

2553

2623

DF3: +20
CPR: 50th

DF3: +50
CPR: 25th

DF3: +80
CPR: 50th

DF3: +150
CPR: 90th

Conditional Percentile Rank (CPR) (cont.)

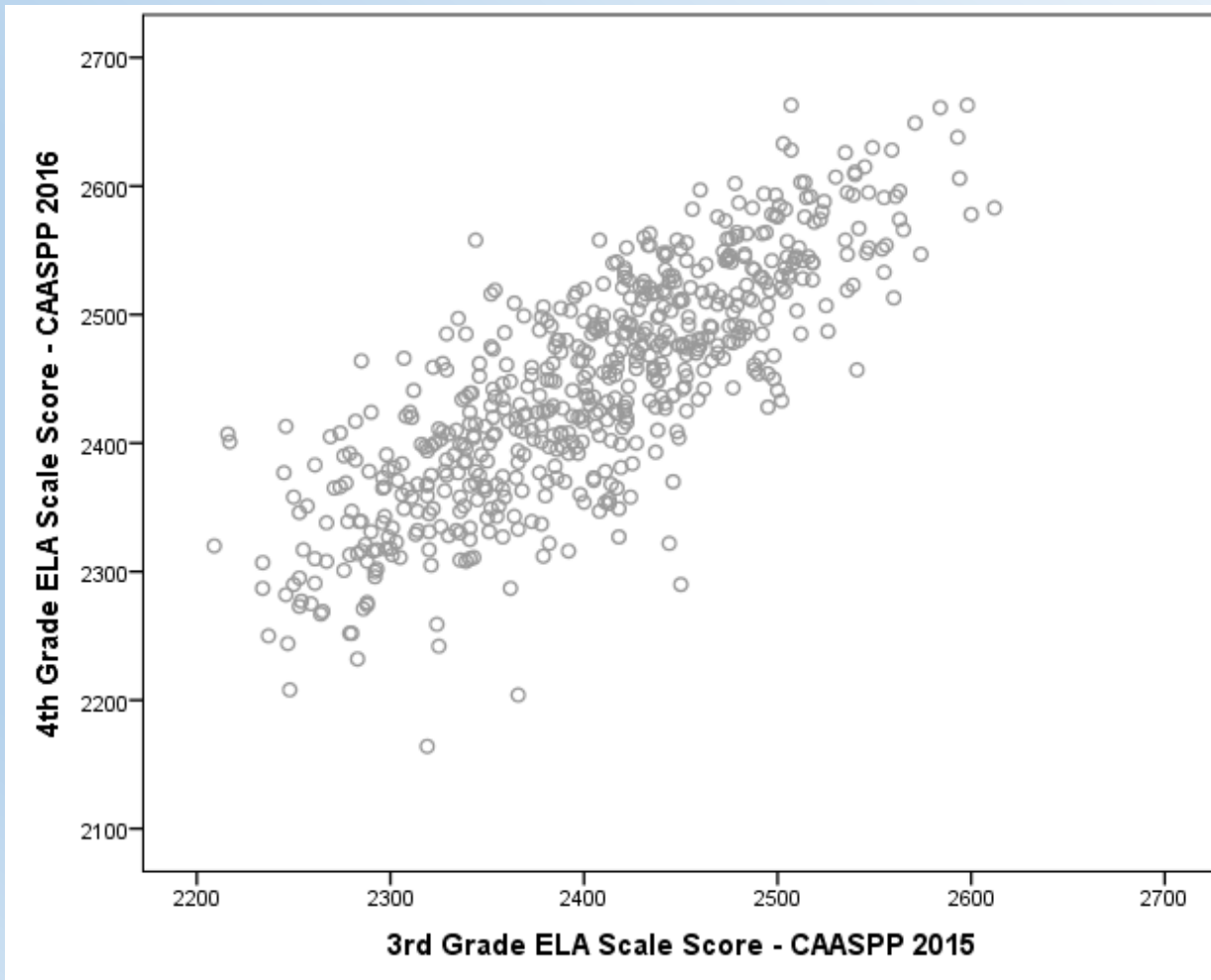
- CPR Example of a student with a DF3 of +50 in 4th grade:
 - Scored 2400 in 3rd Grade: 90th Percentile
 - Scored 2500 in 3rd Grade: 25th Percentile

Residual Gain (RG)

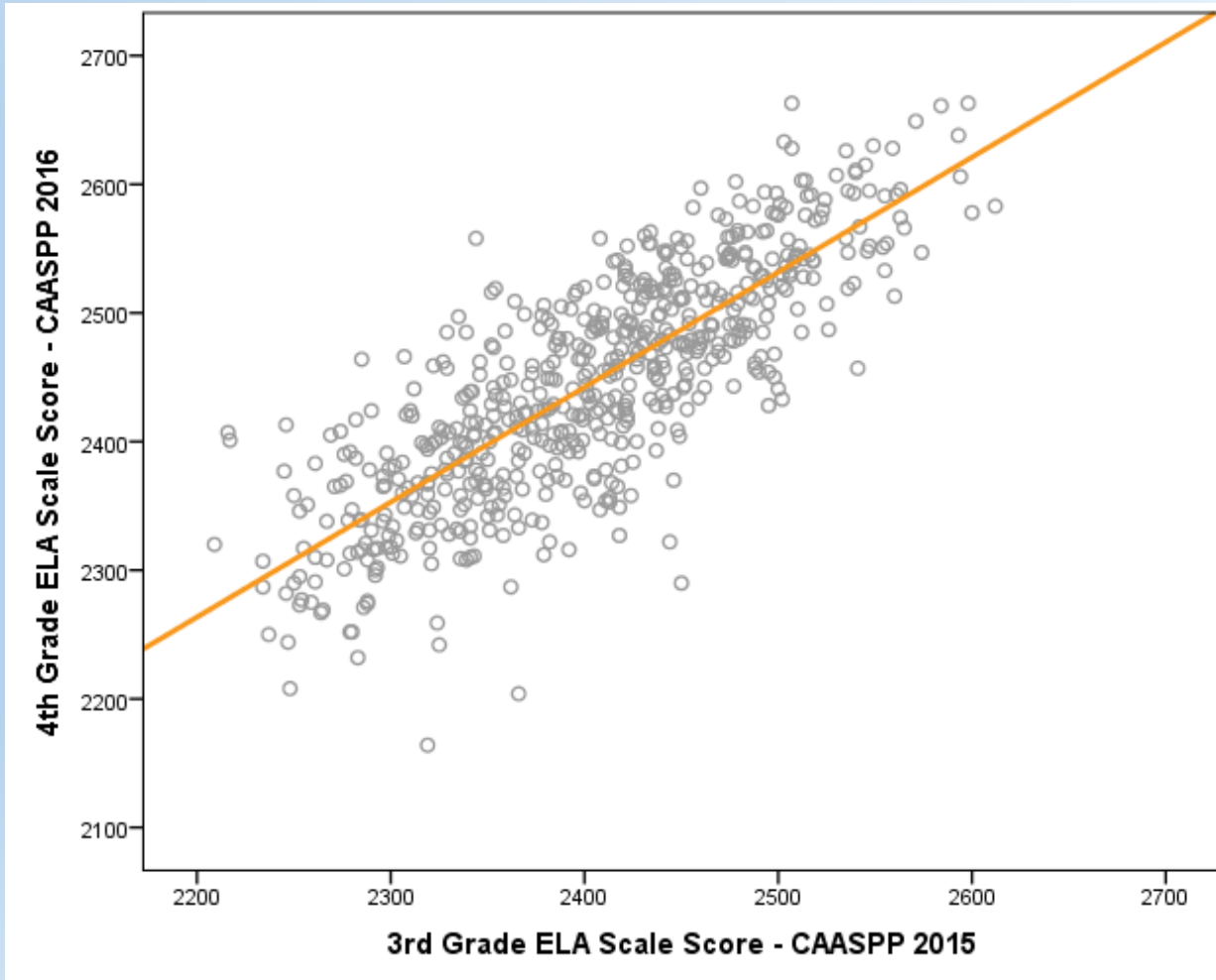
- RG provides a relative measure of student growth on the current test scale.
 - **Predict** the student's current-year score in either mathematics or ELA using the student's prior-year mathematics *and* ELA scores.

Student's current year score – **predicted score** = RG

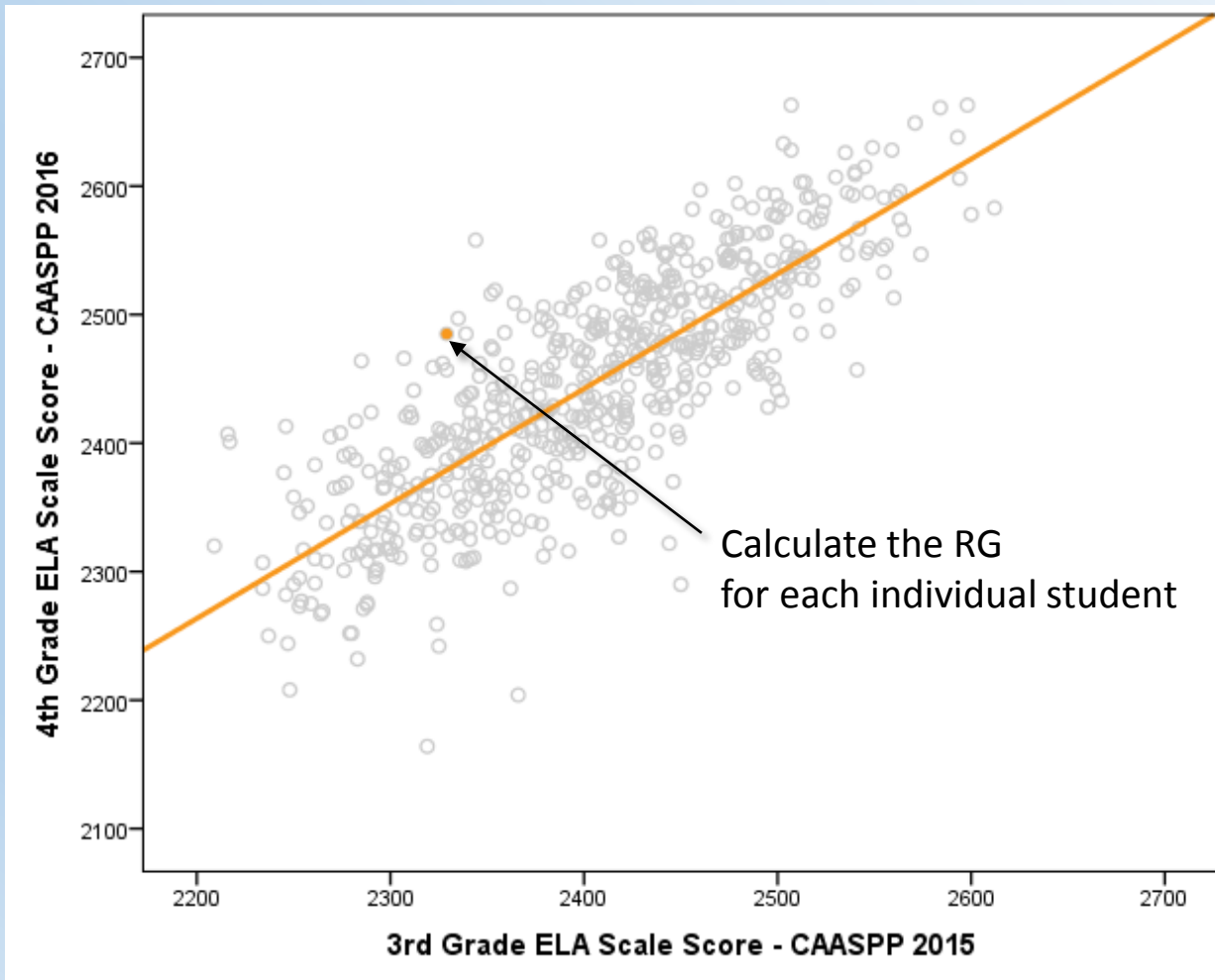
How does RG Work?



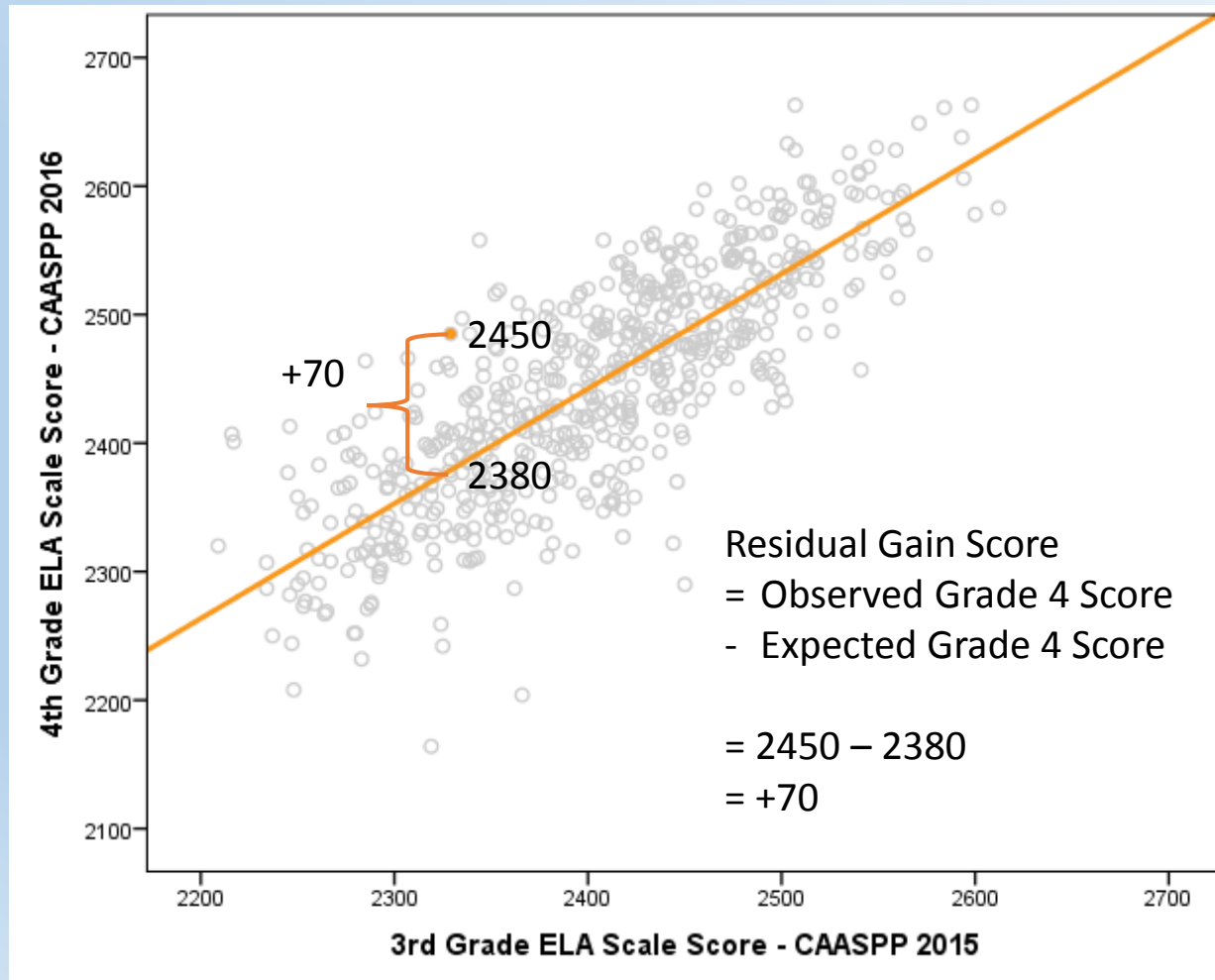
How does RG Work? (cont.)



How does RG Work? (cont.)



How does RG Work? (cont.)



Conclusion of ETS Analysis

- Of the three considered aggregated student growth statistics under consideration for use in aggregate accountability, **RG** appears to have the most promising statistical attributes.

	CDTM	CPR	RG
Strength of relationship with background characteristics		—	
Sensitivity to school configuration and assessment content area (ELA and mathematics)	—		
Statistical precision	—		

— Indicates growth measure performed the worst

Next Steps

- May 2018 SBE Meeting: SBE decision on which growth model to pursue.
- July 2018 SBE Meeting: Present growth model simulation results and any recommendations from the Technical Design Group.
- September 2018 SBE Meeting: SBE decision on how to incorporate growth model in the Dashboard.

Questions and/or Discussion

