Using Student Growth Percentiles in Educator Evaluation in Utah

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Advance Organizer

- Defining tested subjects and grades
- Reviewing Student Growth Percentiles
- Implications for educator evaluation

Tested Subjects and Grades

- Tested subjects and grades are those courses with at least two consecutive years of state CRTs
- In Utah, this includes:
  - ELA—grades 4-10
  - Math—grades 4-7, pre-algebra through Algebra II*
  - Science—grades 5-8, Earth Science, Life Science, Chemistry, and Physics*
  - *Depending on course-taking patterns
- These data will be analyzed for the Grading Schools Accountability system using Student Growth Percentiles

Review of SGP

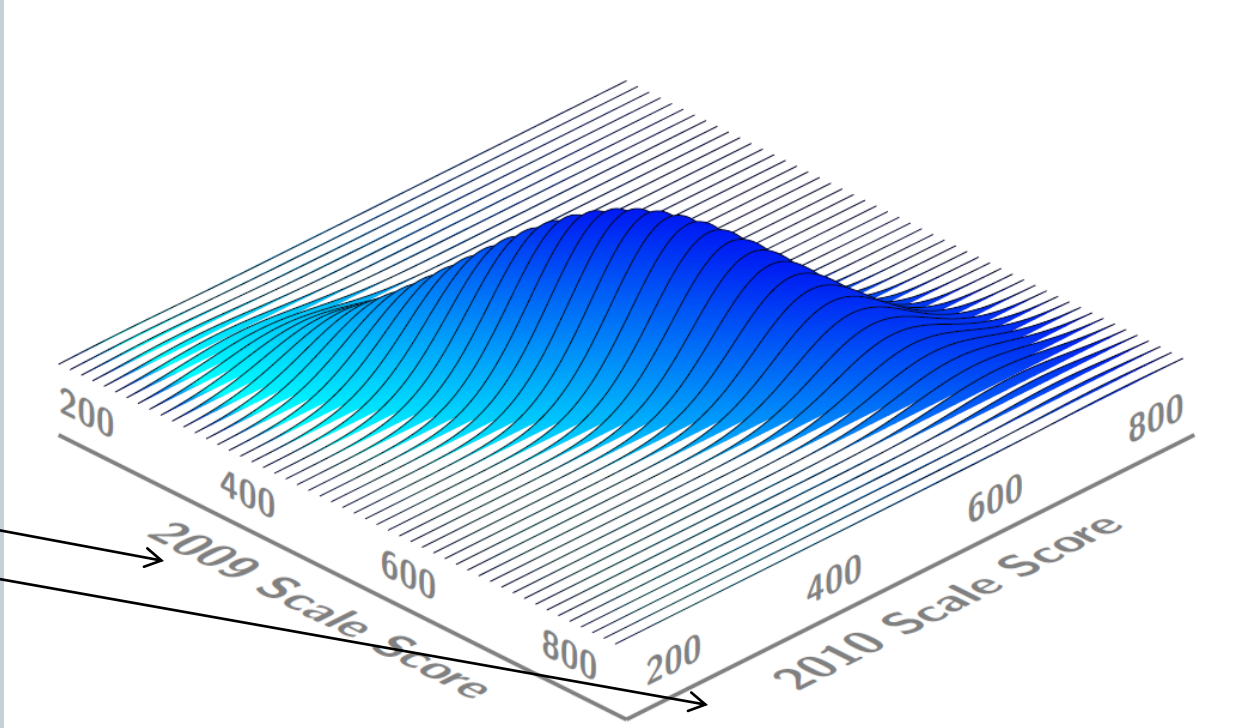
- Student Growth Percentiles (SGP) is a regression based measure of growth that works by conditioning current achievement on prior achievement and describing performance relative to other students with identical prior achievement histories.
- This provides a familiar basis to interpret performance – 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

Review of SGP

How does it work?

Think of a group of students, where each student has two test scores – one for 2009 and one for 2010.

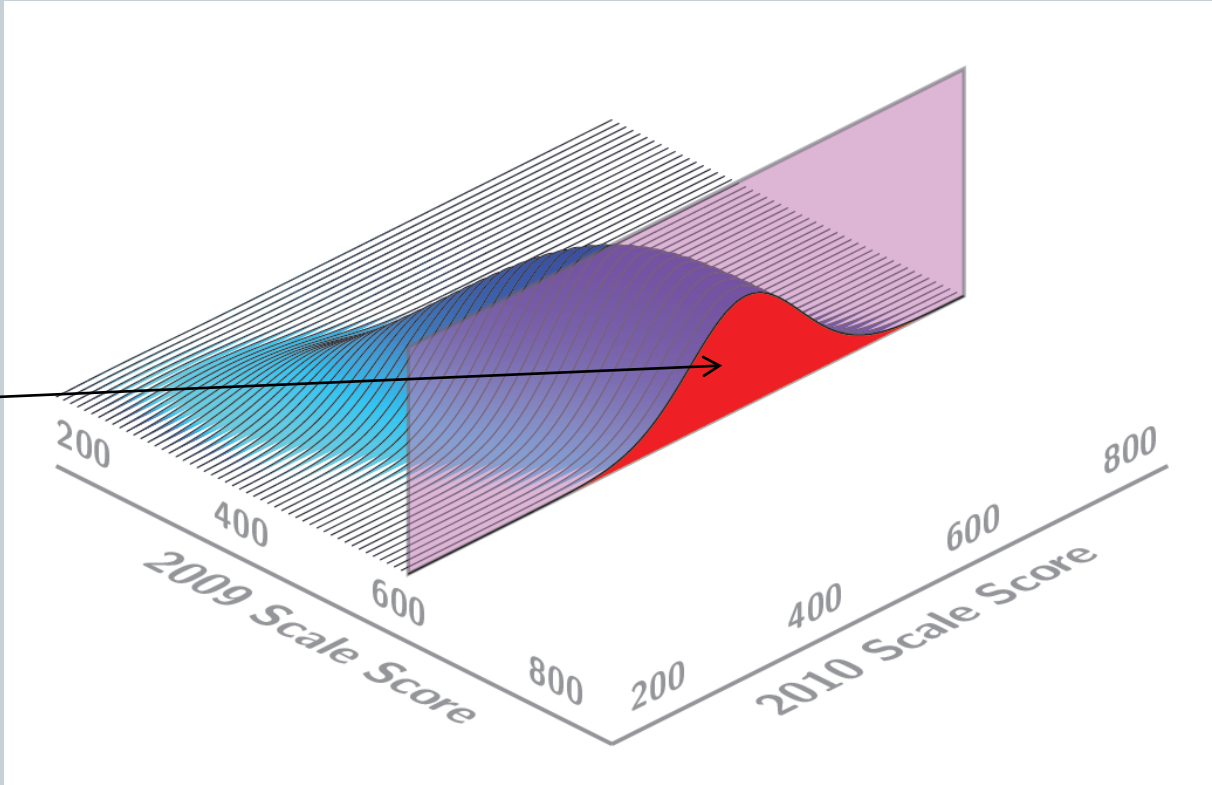
We could show the distribution of these scores at the same time as pictured.



Review of SGP

We could 'slice' through the picture to show the 2010 distribution for just one 2009 score. This is called a conditional distribution.

The red shaded curve shows the conditional distribution in 2010 for all students who scored 600 in 2009.

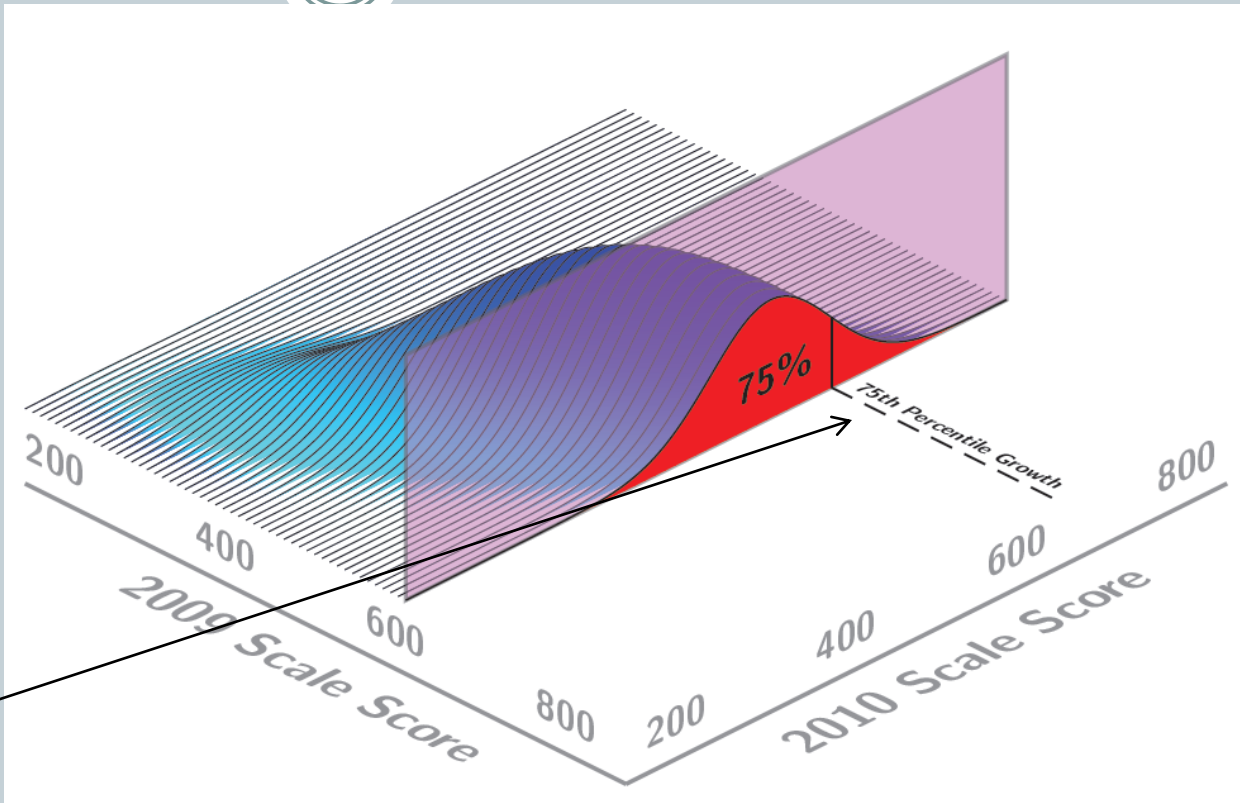


Review of SGP

Assume we are interested in just one score, 650, in 2010.

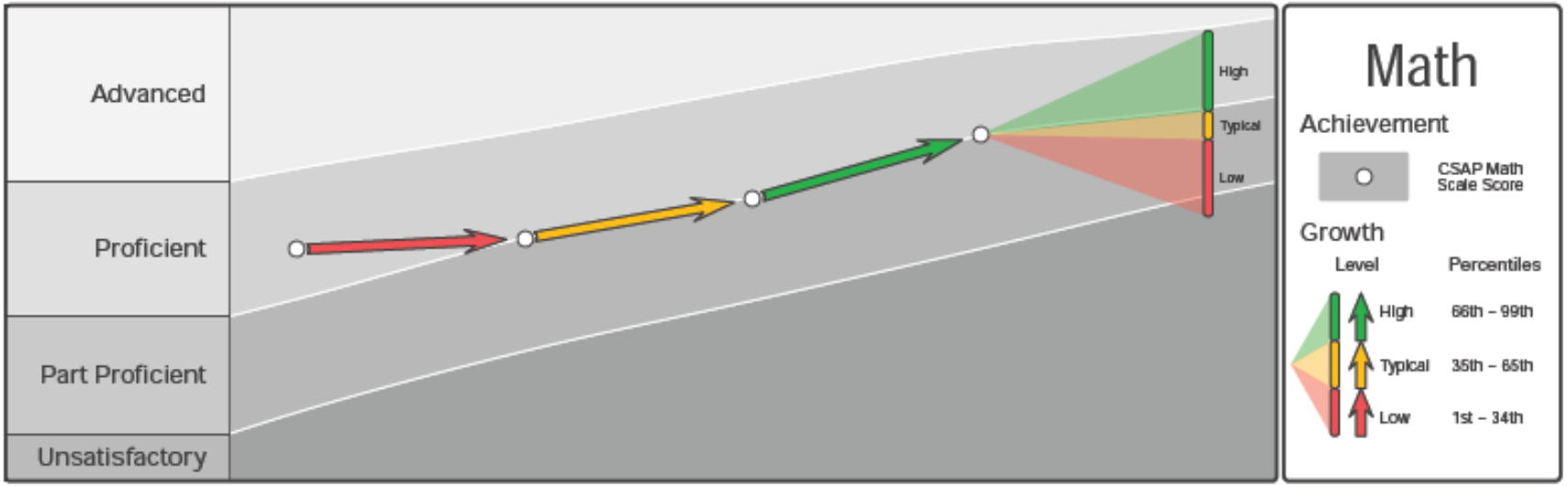
We could ask, what percentage of students who scored 600 in 2009 scored at or below a 650 in 2010?

In this case, that turns out to be 75%. In other words, a score of 650 is at the 75th percentile.



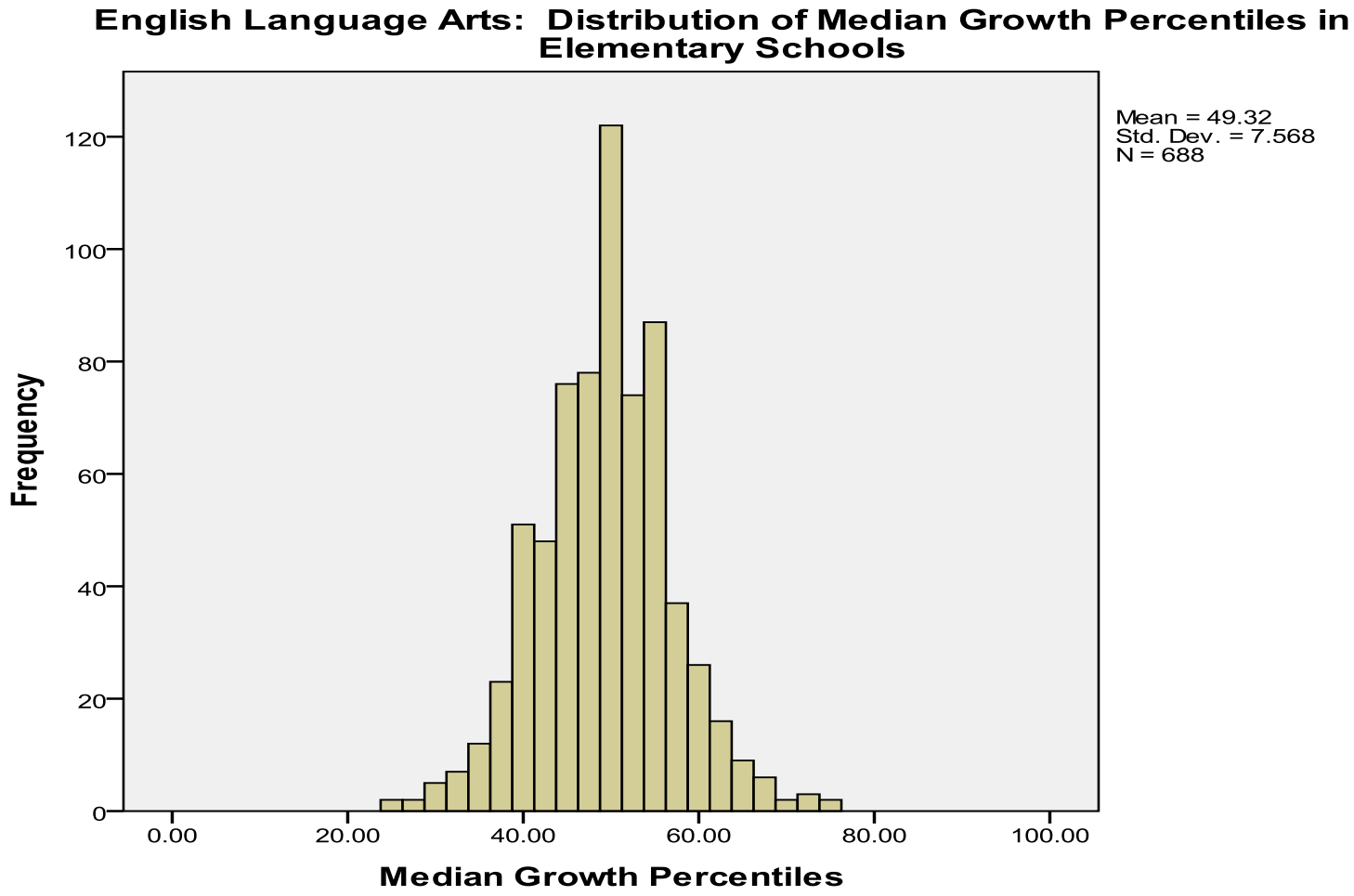
Review of Individual Student Reports

If we have multiple years of SGP data, we can display them as shown. This also displays the relationship between growth and status.

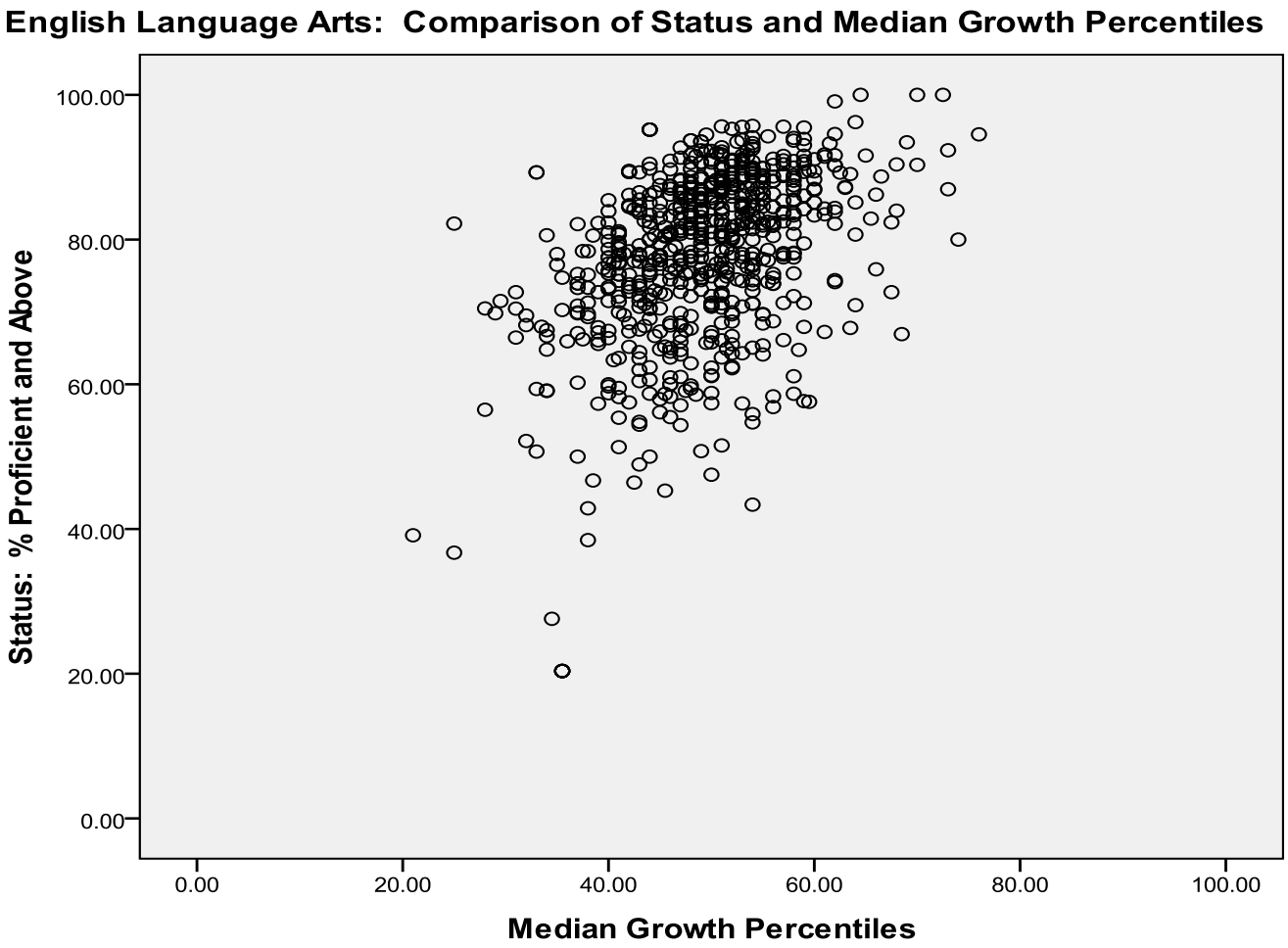


	Grade 4 2006		Grade 5 2007		Grade 6 2008		Grade 7 2009		Next Year	
Scale Score	486		493		518		559			Achievement
Achievement Level	Proficient		Part Proficient		Part Proficient		Proficient			
Growth Percentile		16		46		85				Growth
Growth Level		Low		Typical		High				

Distribution of Median SGPs at the School Level



Relationship between growth and status



Implications for educator evaluation

- The weak relationship between growth and achievement indicates that using SGPs will be fair for educators from all types of schools
- The variability of school-level median SGPs underestimates what will be the distribution of teacher-level median student growth percentiles
- States that are using Value-added models (VAM) or SGP for educator evaluation are categorizing the distributions into 3 or 4 categories, e.g., high, typical, low

Implications for educator evaluation

- Why categorize MGPs into only 3 or 4 categories?
- SGPs, with small sample sizes (a typical elementary classroom) and only one prior score, are not very reliable
- Treating small differences as if they are meaningful could be very misleading
- Therefore, we recommend categorizing student growth using MGPs into three levels of high, typical (or average), and low

Questions?