

A Primer on Growth Percentiles

2009-10 Elementary/Middle School Progress Reports

January 29, 2010

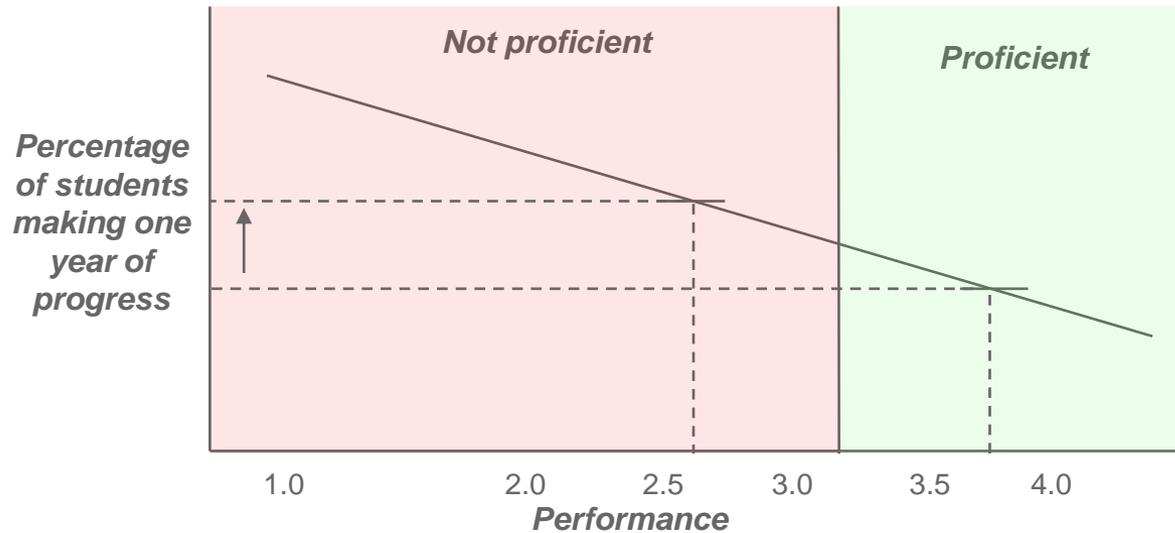


**Department of
Education**

Joel I. Klein, Chancellor

Introduction

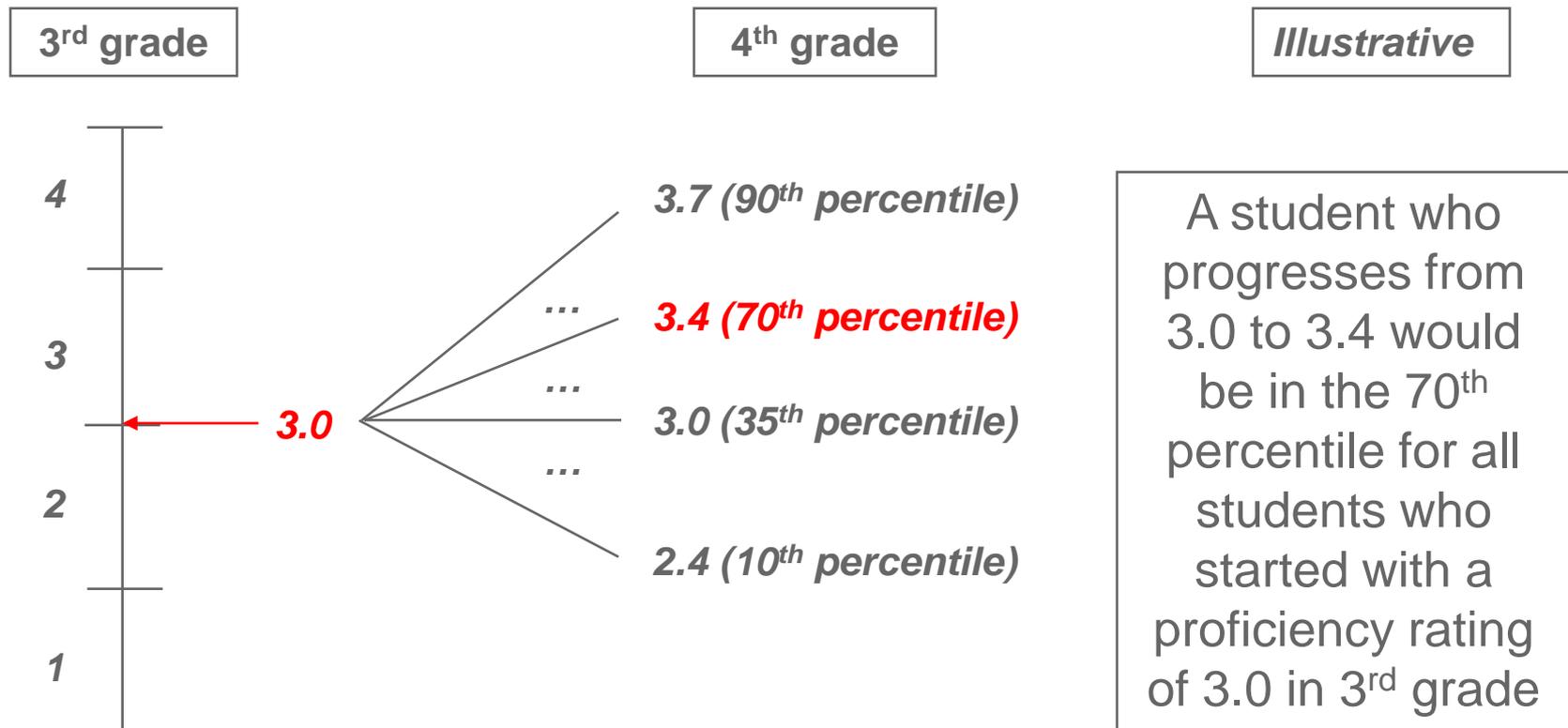
- There are several ways to measure student growth year-to-year
- The Progress Reports have historically compared a student's proficiency this year to his proficiency last year to make a growth determination
- This growth measurement creates the right incentive for every student (i.e., maximize growth), but does not fully account for the contours of the performance-progress relationship; specifically more low performing students make one year of progress than high performing students



- Other districts have chosen different ways to measure student growth; in particular, Colorado has adopted a growth model that has been approved by the U.S. DOE which uses growth percentiles
- Growth percentiles, as we'll show in the presentation, represent the next generation of student progress measurement, as they control for each student's starting proficiency
- New York State has openly expressed an interest in learning more about the Colorado model as it seeks to adopt its own growth model; this may present an opportunity for NYC and NYS to align their school evaluations for Elementary/Middle Schools over time (<http://www.regents.nysed.gov/meetings/2009Meetings/December2009/1209emsca3.doc>)

Growth percentiles control for a student's starting proficiency

Assume there were 1,000 students who scored a 3.0 in 3rd grade; we could then rank each student's improvement based on his/her *growth percentile*



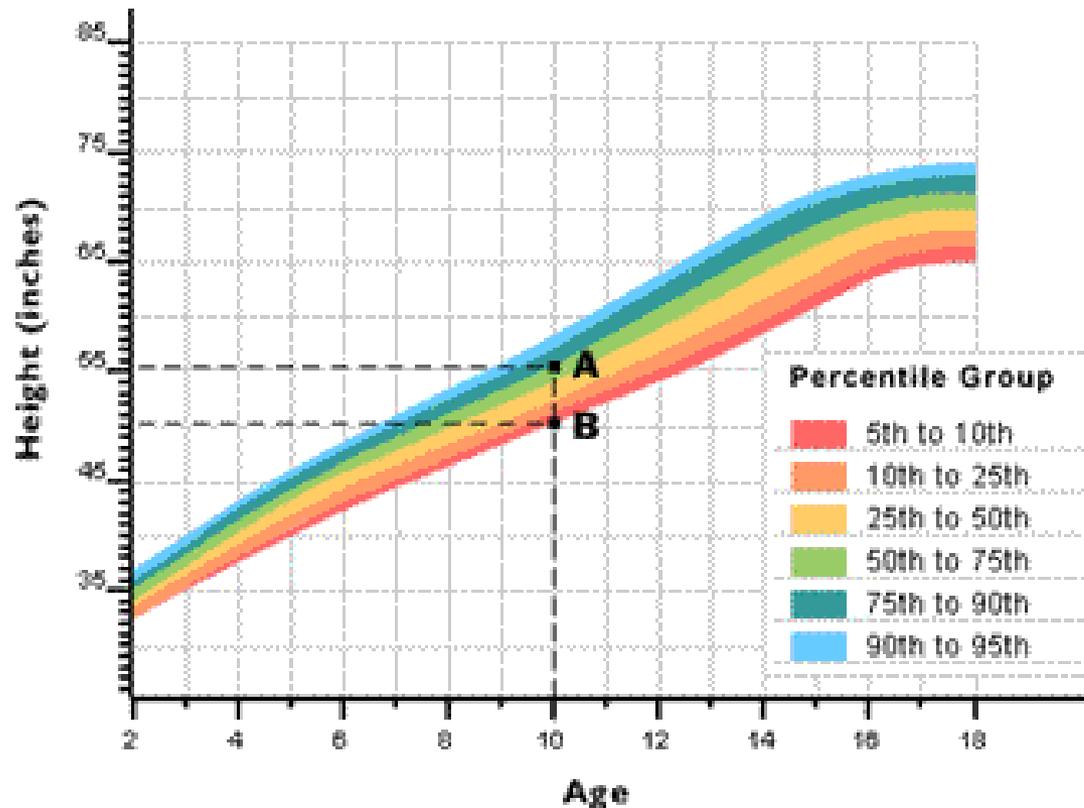
Growth percentiles defined

A student's growth percentile indicates the percentage of students, starting at the same place, that the student's growth exceeded

A 50th percentile outcome means that a student made more growth than 50% of the students who started at the same place

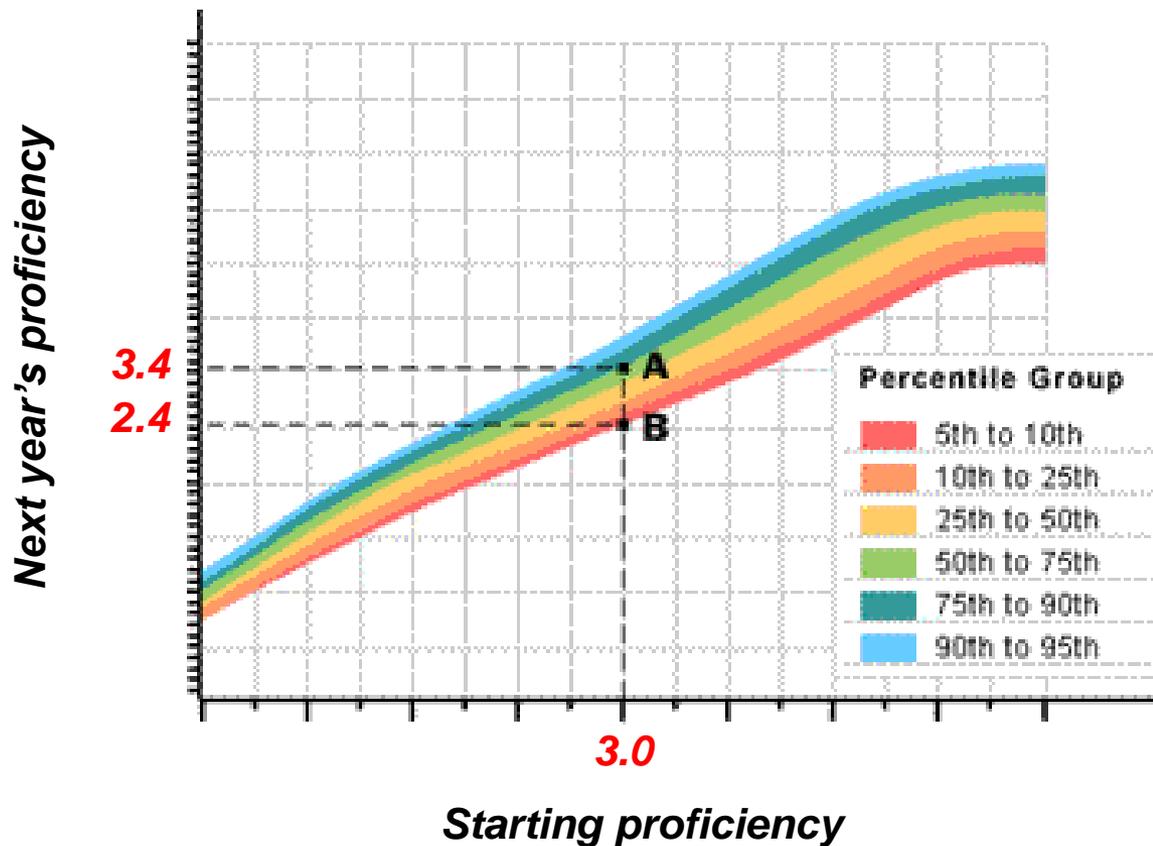
Percentiles are used in many contexts

Example: pediatric growth charts

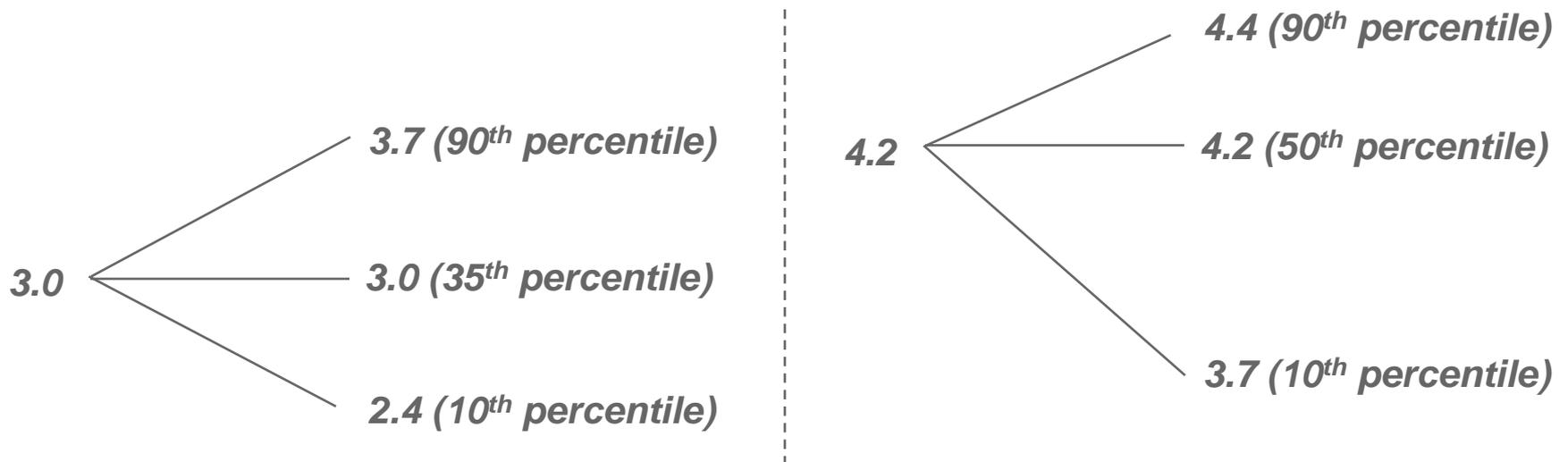


- Child A, at 55 inches, is in the 50th to 75th percentile for his age
- Child B, at 50 inches, is in the 5th to 10th percentile for his age

Conceptually, our approach would be the same, except that we would be mapping starting proficiency against growth in proficiency



Growth percentiles control for how likely students are to make one year of progress given their starting proficiency



Going from a 3.0 to a 3.0 may be a 35th percentile outcome, while going from a 4.2 to a 4.2 may be a 50th percentile outcome. In the current system however, both students are viewed equally as making one year of progress, even though many fewer students who start at 4.2 make one year of progress

So, for 2009-10, the progress measures would be based on the median growth percentile for students at each school

<i>Measure</i>	<i>Existing</i>	<i>Proposed</i>
Student Progress	1. Percentage of students making one year of progress	1. Median growth percentile for all students
	2. Percentage of students making one year of progress (lowest third)	2. Median growth percentile for all students (lowest third)
	3. Average change in proficiency for Level 1/2 students	
	4. Average change in proficiency for Level 3/4 students	

Note: we will also eliminate sharing of progress for students who transfer schools (in previous years, we have shared progress for transfers 60%/40% between the sending and receiving schools; we believe this is no longer necessary now that the State tests have been moved to the end of the year)

Impact on schools

Growth percentiles preserve the progress incentives for schools: specifically, maximize the amount of progress made by each student

A larger gain in proficiency for any individual student will always translate to a higher growth percentile

Example: Growth percentiles for 4th grade math

Differences in growth percentiles correspond to very different proficiency gains/losses

Percentile outcomes for students starting at a proficiency rating of 3.0 in third grade

