

The Wyoming Growth Model: An Introduction

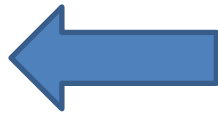
Deb Lindsey and Leslie Zimmerschied
Assessment and Finance and Data Divisions

Overview

- What is growth? Why are we doing this?
- How do we measure growth for students and groups?
- What have we learned so far?
- What will be available this fall?

WAEA Indicators

- Elementary and Middle
 - Achievement
 - Growth
 - Equity
- High School
 - Achievement
 - Equity
 - College Readiness



Wyoming School Rating System



What is growth?

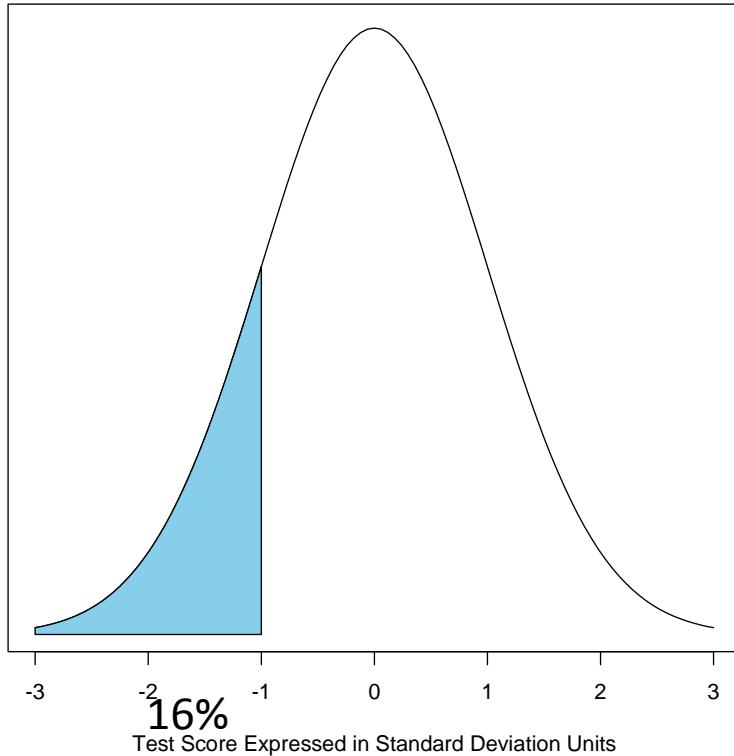
- PAWS shows how each student is achieving relative to state standards
 - Is John proficient in 6th grade mathematics? What percent of his peers are proficient?
- Growth measures change in an individual student's performance over time, using scale scores from one year to the next
 - How much did John improve in mathematics from 5th grade to 6th grade relative to his academic peers?

Why measure growth?

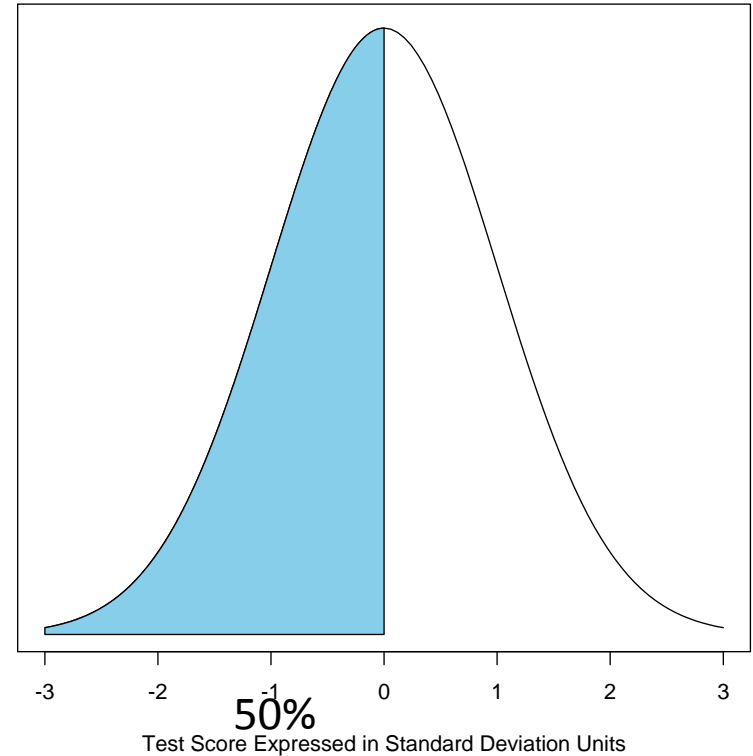
- Measures progress for students at all performance levels
 - A student can achieve at a low level but still improve relative to his academic peers
 - Another could achieve well but not improve much from year to year
 - Considered to be more fair in school accountability systems
- Provides evidence of improvement even among those with low achievement
- Gives high achieving students and schools something to strive for beyond proficiency

Change in Normative Status

Grade 4



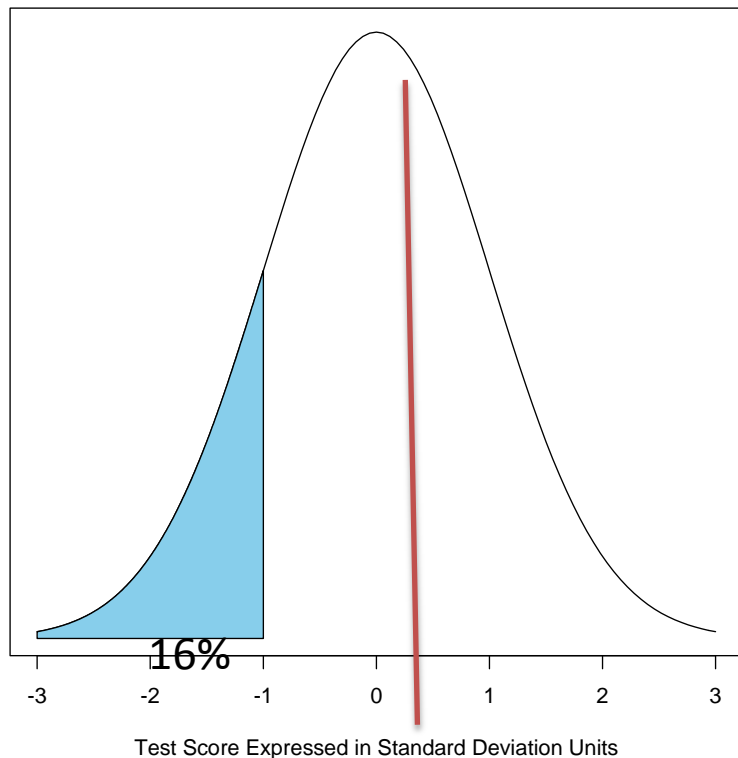
Grade 5



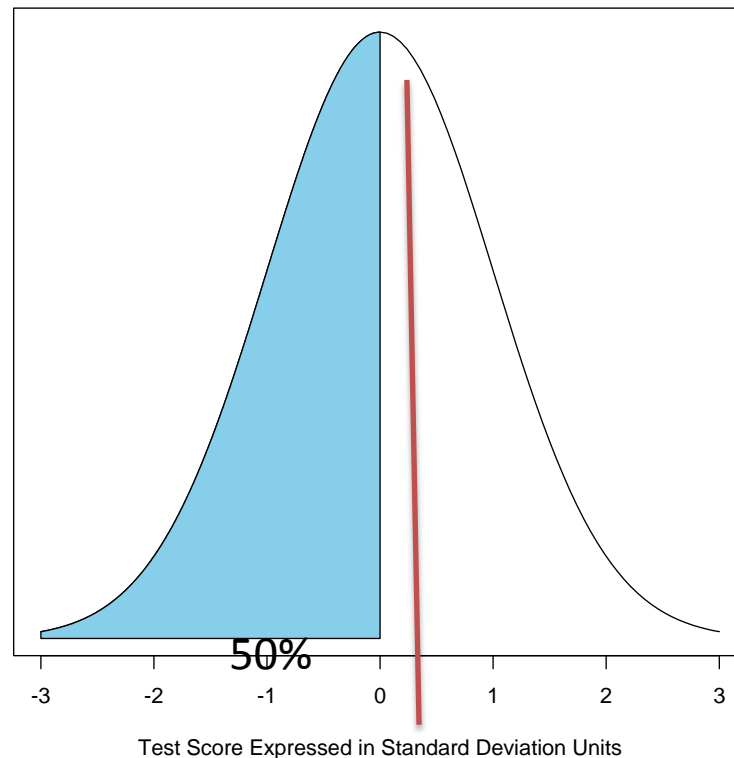
If a student went from scoring better than 16% of all students in grade 4 to scoring better than 50% of students in grade 5, would this be evidence that growth had occurred?

We might miss this if we only focus on movement across the proficiency bar

Grade 4



Grade 5



If the red line marks the cutpoint for proficiency each year, this is a student who was below proficiency each year. But there are clearly indications of great progress being made, and normative comparisons help to show this.

Growth Models Have Shown...

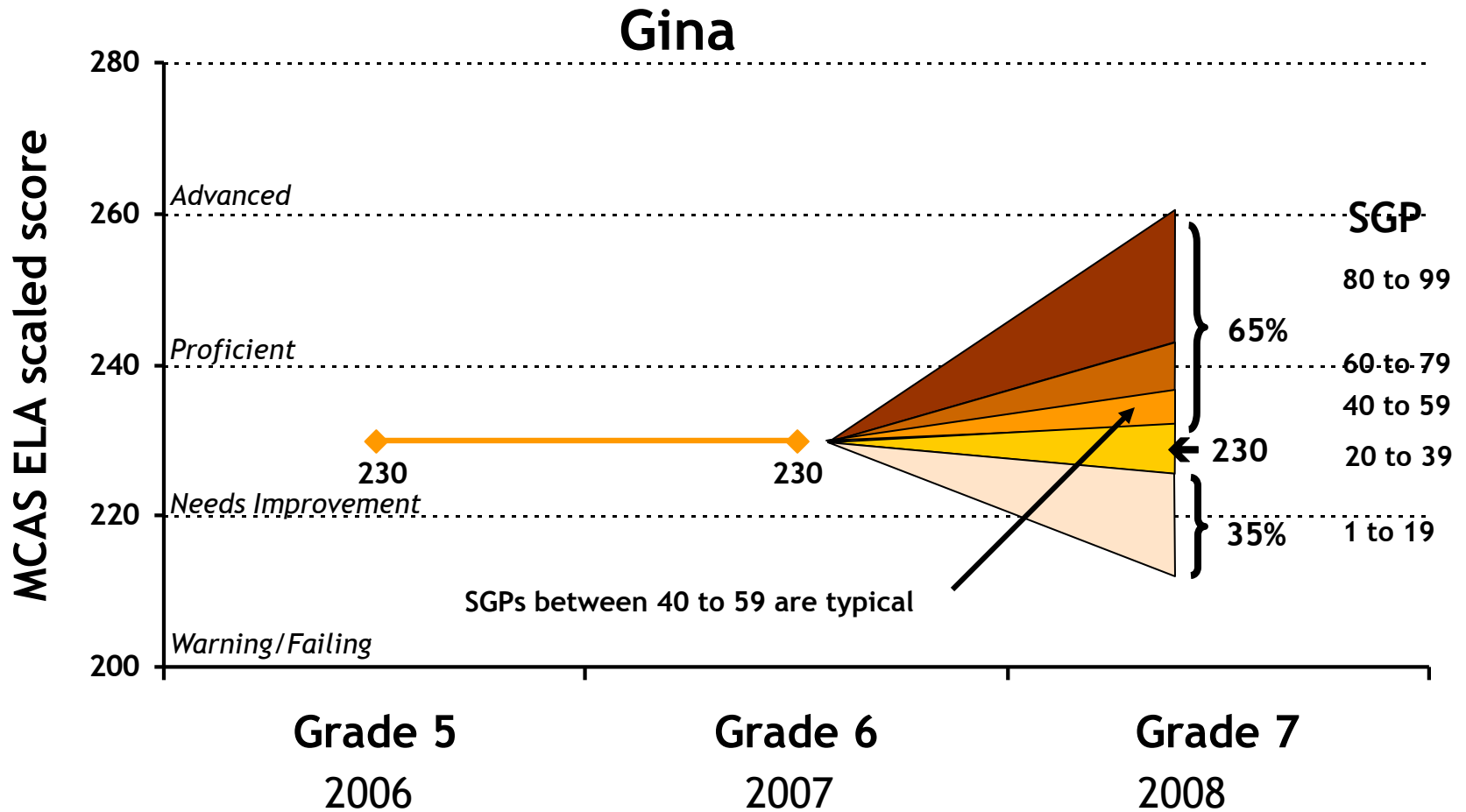
- Growth not correlated with how close a student is to proficient
- Normative growth gaps narrowing among student groups
- Most low-achieving students not growing fast enough to catch up
- Many proficient students not keeping up
- Many high-achieving schools show low growth and many low-achieving schools show high growth

Growth Terms

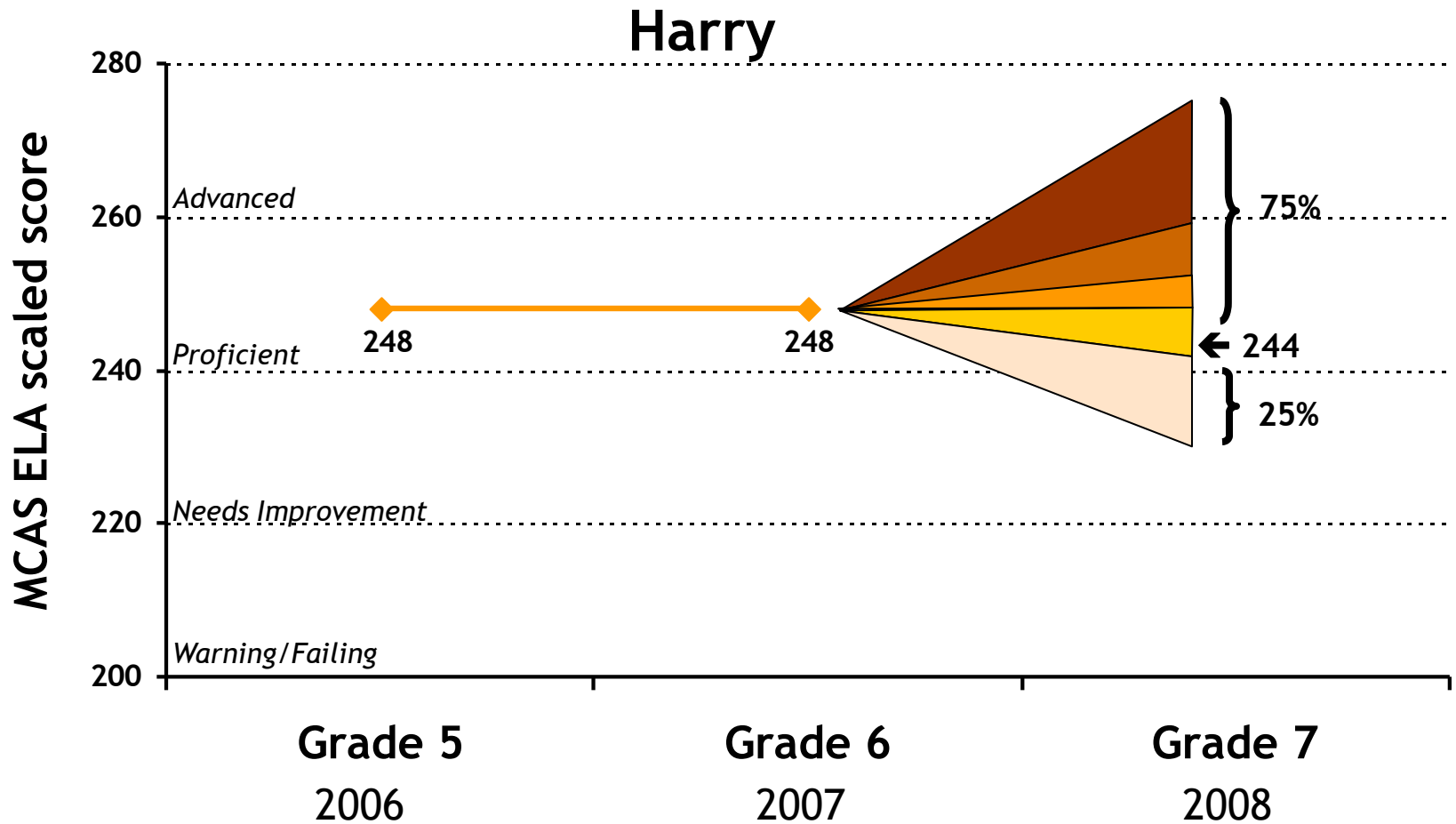
- 1. Student Growth Percentiles (SGP)** –a normative measure. It compares students with other like-performing students across the state. A SGP produces a relative percentile score (such as 70th percentile) that tells the student that s/he scored better than 69 percent of students who had scores like him in the previous year in the state. Median Growth Percentiles (MGPs) are used to summarize SGPs across classes, grades, and schools.
- 2. Adequate Student Growth Percentiles (AGP)** – a criterion-referenced measure relative to proficiency. It measures how far away from proficiency a student is and answers: “how much growth would a student have to make to reach proficiency in three years or by the end of 8th grade. A student can make 70th percentile growth and still not meet AGP goals.



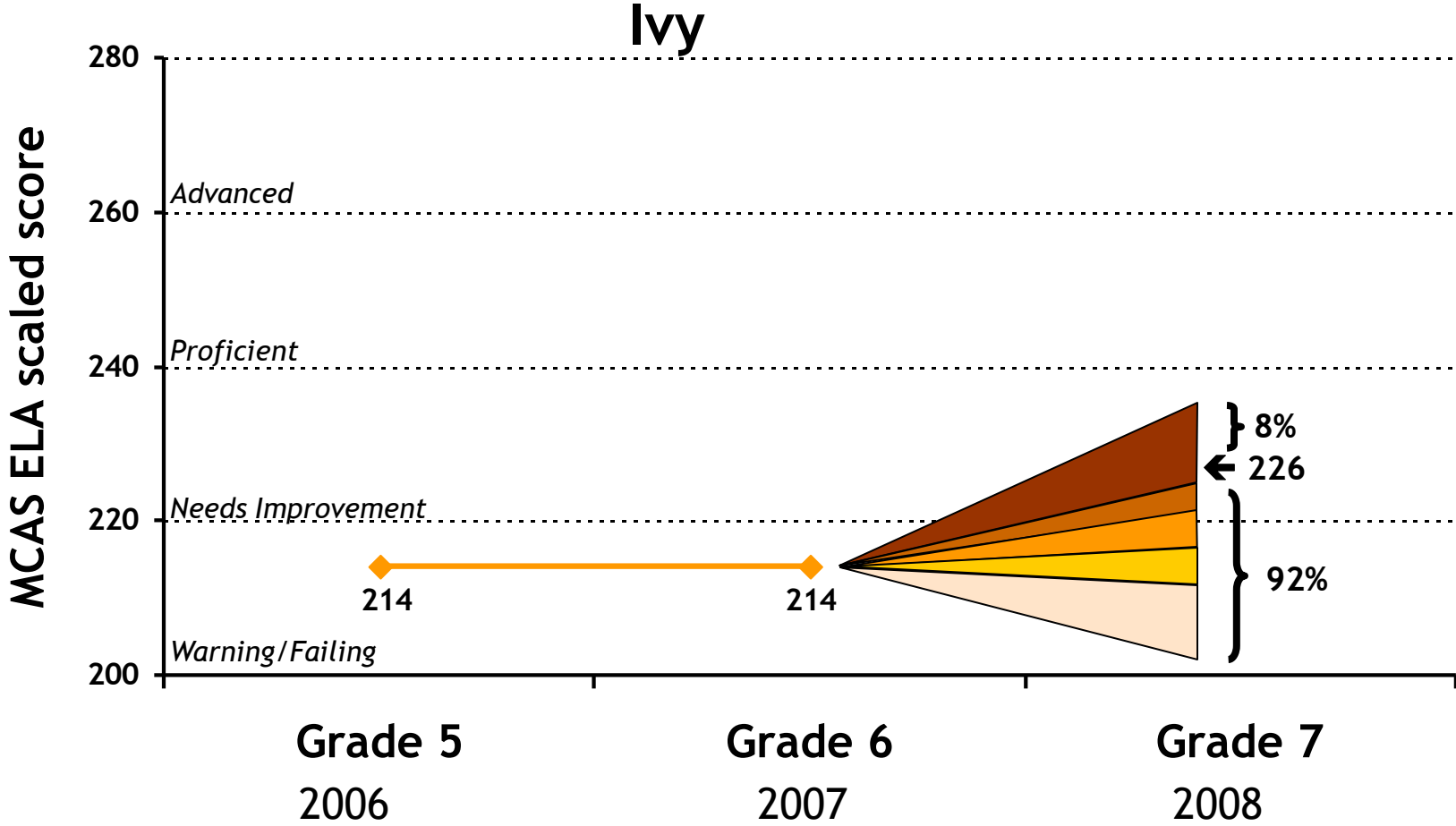
Growth to grade 7: Example 1



Growth to grade 7: Three students



Growth to grade 7: Example 2



Rules of thumb

- Typical student growth percentiles are between about 40 and 60
- Students or groups outside this range has higher or lower than typical growth
- Differences of fewer than 10 SGP points are likely not educationally meaningful

Key Concepts

- Growth is distinct from achievement
 - A student can achieve at a low level but grow quickly, and vice versa
- Each student is compared only to their statewide academic peers, not to all students statewide
 - Others with a similar test score history
 - All students can potentially grow at the 1st or 99th percentile
- Growth is subject-, grade-, and year-specific
 - Different academic peer groups for each subject, grade, and year
 - Therefore, the same change in scaled scores can yield different student growth percentiles
- The percentile is calculated on the change in achievement, not the absolute level
 - Differs from more familiar norm-referenced measures

Median student growth percentile

Last name	SGP
Lennon	6
McCartney	12
Starr	21
Harrison	32
Jagger	34
Richards	47
Crosby	55
Stills	61
Nash	63
Young	74
Joplin	81
Hendrix	88
Jones	95

Imagine that the list of students to the left are all the students in your 6th grade class. Note that they are sorted from lowest to highest SGP.

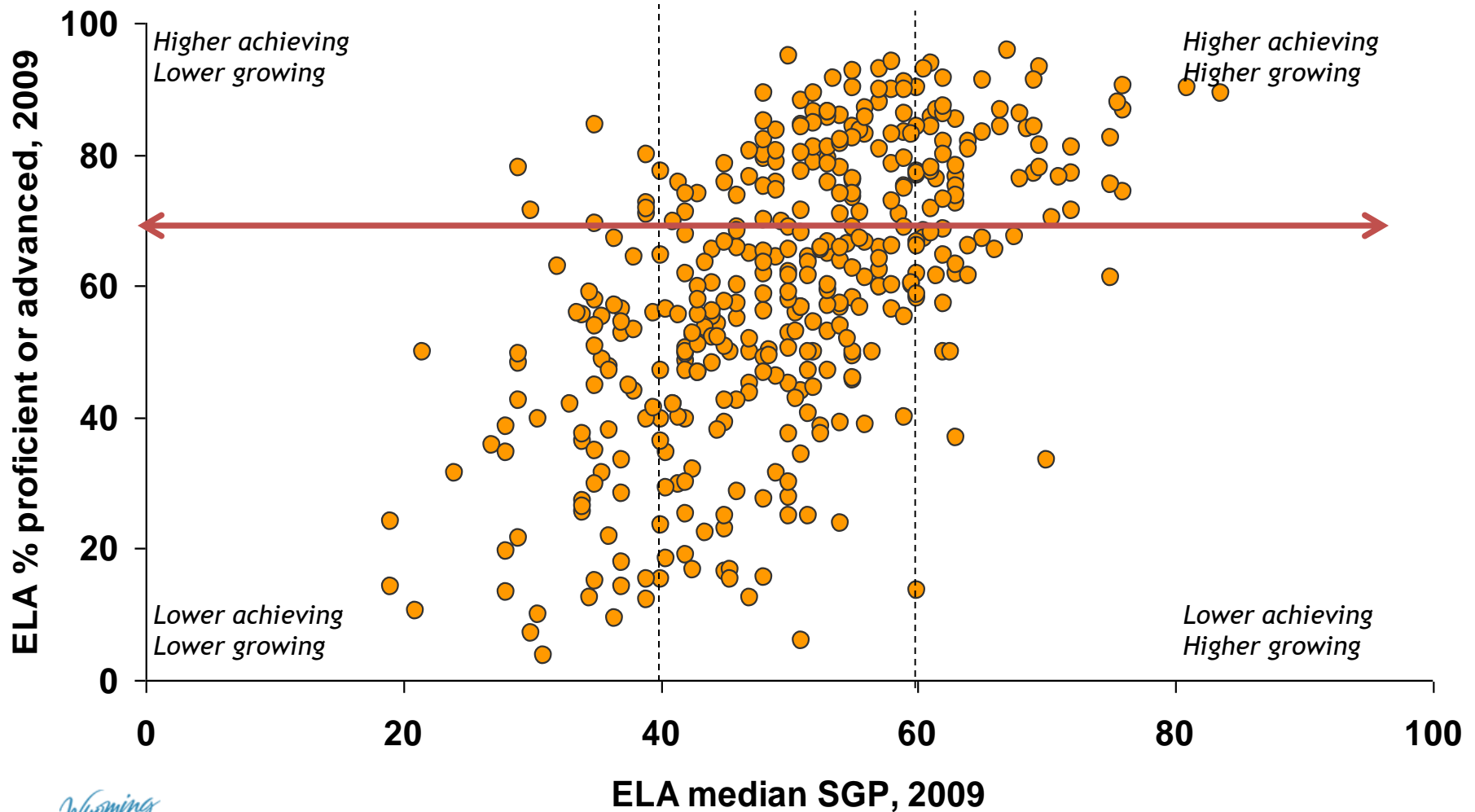
The point where 50% of students have a higher SGP and 50% have a lower SGP is the median.

Median SGP for the 6th grade class

The Median Growth Percentile (MGP) is used in the Wyoming school rating system under the Wyoming Accountability in Education Act (WAEA), Enrolled Act 65.

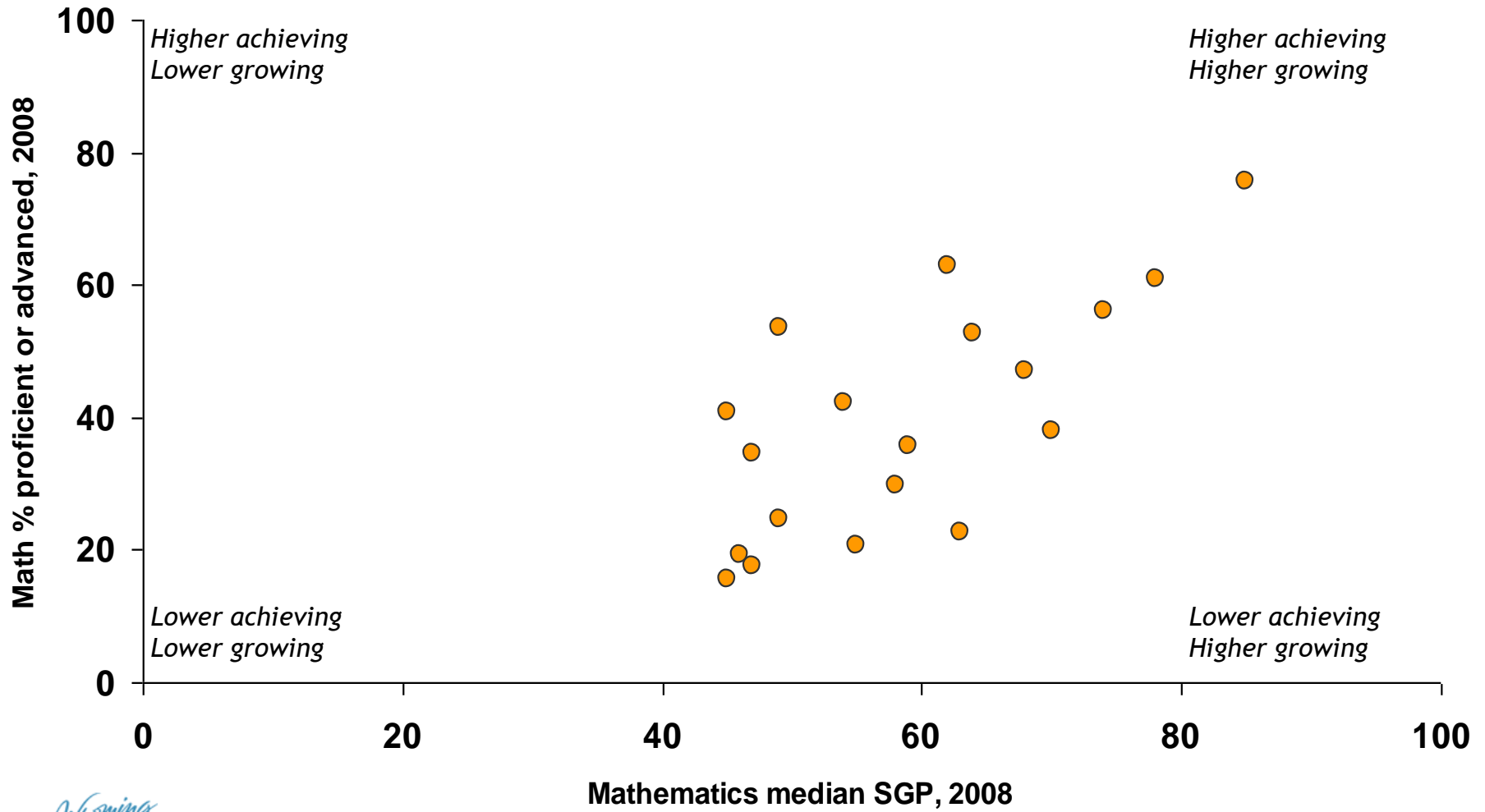


Using median student growth percentiles: growth by achievement for schools



New insights: Growth vs. achievement

Grades 4, 5, 6 mathematics - All elementary schools in one district



Is Growth Good Enough?

- The adequacy of an SGP depends on a student's proficiency status.
 - If a student was below proficiency the year before, was there enough growth to get the student above proficiency within 3 years or by 8th grade, whichever comes first?
- AGPs are used in the Wyoming school rating system in the Equity indicator

Growth Model Possibilities

- Measuring growth allows for a reframed focus for teachers and school improvement teams
- Conversations can be about possibilities rather than failures
- Focus can shift to all students to grow rather than just “bubble students”
- Growth can be used to inform instruction
- Growth can be leveraged to close gaps (Equity Indicator)
- Growth can identify good practices that are working before students get to proficiency
- More accessible by general public so the possibility to engage parents in solutions is greater

Privacy, Security, Confidentiality

We take our moral and legal responsibility to protect student privacy and ensure data security and confidentiality seriously.

Confidentiality


- The obligation of a person with access to another individual's personally identifiable information not to share it without consent.
 - Some adults, such as teachers and some department staff, have access to student-level data to inform instruction or to inform and implement policy. It is important that those who have the authority to access these data take seriously their responsibility to adhere to state and federal law by not sharing data with others who do not have permission.

Security

- The policies and practices implemented at the state, district, and school levels to ensure that data are kept safe from corruption and that access is limited and appropriate.
 - As we become increasingly effective at using data, constantly focusing on ensuring that those data are secure through state policy and protocols and through practice at the state, district, and school levels will be imperative. Trust in how the state handles data is imperative to continued success in using data to improve system performance and student achievement.

Student Level Data

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Data Reporting Links

- Assessment
- Assessment Confidential
- Finance
- CTE Approved Courses
- State Report Cards
- Student to Teacher Ratio
- College Readiness Reports
- School Citizenship and Discipline
- Statistical Report Series #2
- Fiscal Validation Report

My Links

URL

- Forms Inventory - WDE684-Enrollment Data
- Applications - State Report Manager

Confidential Assessment Reports

- [PAWS Results - Student Level \(2006-07\)](#)
- [PAWS Results - Student Level \(2007-08\)](#)
- [PAWS Results - Student Level \(2008-09\)](#)
- [PAWS Results - Student Level \(2009-10\)](#)
- [PAWS Results - Student Level \(2010-11\)](#)
- [PAWS Results - Student Level \(2011-12\)](#)
- [PAWS Results for AYP - Student Level \(2005-06\)](#)
- [PAWS Results for AYP - Student Level \(2006-07\)](#)
- [PAWS Results for AYP - Student Level \(2007-08\)](#)
- [PAWS Results for AYP - Student Level \(2008-09\)](#)
- [PAWS Results for AYP - Student Level \(2010-11\)](#)
- [PAWS Results for AYP - Student Level \(2011-12\)](#)
- [Student Level Assessment Results \(2012-13\), Grades 3 to 8, PAWS and PAWS-ALT](#)

Potential MGP Reports



MGP Analysis For Sample Elementary During School Year 2012-13
All Students

Sample Elementary				
Grade	Combined Reading and Mathematics	Reading	Mathematics	N Count
ALL	41.5	42.0	40.0	59
04	47.5	43.0	53.0	18
05	32.5	32.5	34.0	22
06	52.5	52.0	59.0	19

Percent Met AGP Analysis For Sample Elementary				
Grade	Combined Reading and Mathematics	Reading	Mathematics	N Count
ALL	48.3	49.2	47.5	59
04	61.1	61.1	61.1	18
05	34.1	31.8	36.4	22
06	52.6	57.9	47.4	19

Potential Median AGP Reports



MAGP Analysis For Sample Elementary During School Year 2012-13

All Students

Sample Elementary				
Grade	Combined Reading and Mathematics	Reading	Mathematics	N Count
ALL	30.0	24.0	36.0	100
04	27.0	25.5	28.0	34
05	34.5	24.0	37.0	40
06	34.5	22.5	42.5	26

Percent Met AGP Analysis For Sample Elementary				
Grade	Combined Reading and Mathematics	Reading	Mathematics	N Count
ALL	64.0	66.0	62.0	100
04	64.7	64.7	64.7	34
05	53.8	57.5	50.0	40
06	78.8	80.8	76.9	26

WAEA School Performance Reports



Wyoming Department of
Education
Richard Crandall, Director

2012-13 School Performance Report For
schools serving grades 3 through 8

School:	Sample Elementary
Principal:	Thomas Moran
Enrollment:	372
Grades:	K-6

This School is in the MEETING EXPECTATIONS Performance Level.

Schools in Wyoming may fall within one of four performance levels based on their pattern of performance on three indicators: Achievement, Growth, and Equity. The four performance levels are:

- EXCEEDING EXPECTATIONS
- MEETING EXPECTATIONS
- PARTIALLY MEETING EXPECTATIONS
- NOT MEETING EXPECTATIONS

Indicator	Score	Category	N-Count	Description
Achievement	89.1 %	Exceeding Targets	84	Achievement is the percent proficient or above on state tests in reading, mathematics, science, and writing.
Total Growth	53.5 %	Meeting Targets	84	Growth measures how much students improved on the state test in reading and math compared to other students who started at the same level during the reported school year.
Equity	33.3 %	Below Targets	84	Equity measures the percent of students with below proficient scores during the prior school year with growth that indicates they are on track to become proficient within three years or the end of grade eight.
Participation Rate	100.0 %		84	Expected participation rate on all tests used for accountability is 95% or higher. Not meeting the expected participation rate results in a drop in a school's performance level.

Three categories of performance have been identified on each indicator.
The three categories are: Exceeding Targets, Meeting Targets, Not Meeting Targets

ACHIEVEMENT: Percent of Students Proficient and Above on the Proficiency Assessment for Wyoming Students (PAWS).

All	Sample Elementary			N Count
	Reading	Mathematics	Science	
89.1%	89.0 %	95.9 %	70.6 %	145
92.7%	89.1 %	96.4 %	%	55
85.0%	86.3 %	98.0 %	70.6 %	51
92.3%	92.3 %	92.3 %	%	39

WAEA School Performance Reports



Wyoming Department of Education
Richard Crandall, Director

2012-13 School Performance Report
For schools serving grades 3 through 8

GROWTH: Median Student Growth Percentile (SGP) on the PAWS.

Grade	Sample Elementary			N-Count
	All	Reading	Mathematics	
ALL	53.5	48.5	56	84
04	48	46	54	49
05	61	64	61	35

EQUITY: Percent of Students who were Below Proficient in the Prior Year in reading and/or mathematics that were ON Track* for Becoming Proficient within Three Years or by the End of Grade 8.

Grade	Sample Elementary			N-Count
	All	Reading	Mathematics	
ALL	33.3 %	50.0 %	16.7 %	6
04	40.0 %	60.0 %	20.0 %	5
05	0.0 %	0.0 %	0.0 %	1



What to do with this?

- With this information, teachers are able to:
 - determine whether students are making progress and in what content areas
 - differentiate instruction based on the progress of each student
 - create student growth trajectories to targets
 - identify and support at-risk students as well as those who need additional challenges

What to do with this?

- Principals are able to:
 - make evidence based decisions regarding the extent to which a teacher has met or exceeded the statistical expectation for a student's achievement
 - better assign students to teachers
 - evaluate and support teachers in their improvement and professional growth

What to do with this?

- State policymakers are able to:
 - identify the teacher training programs that are best preparing teachers for the classroom
 - ascertain the effectiveness of particular districts and schools in meeting the needs of various subgroups of students
 - determine where growth is occurring even when aggregate achievement figures are below targeted levels

Questions?

Deb Lindsey
Administrator,
Assessment Division

- 307-777-8753
- Deb.Lindsey@wyo.gov

Leslie Zimmerschied
Data Governance Coordinator,
Finance and Data Division

- 307-777-8751
- Leslie.Zimmerschied@wyo.gov