

DU103: USING STUDENT GROWTH PERCENTILES



Thank you!



Where are we now?

DATA USE TRACK

Making Decisions Using NJ SMART Data

- ☐ DU101: Using District Reports
- ☐ DU102: Using EDanalyzer
- ☒ DU103: Using Student Growth Percentiles
- ☐ DU104: Using Ad Hoc Analysis
- ☐ DU201: Using Data for District & School Improvement Planning

DATA QUALITY TRACK

Establishing High-Quality Data

- ☐ DQ301: Getting Started with NJ SMART
- ☐ DQ302: SID/SMID Management
- ☐ DQ303: NJ SMART Submissions
- ☐ DQ304: Data Quality



DU103 Using Student Growth Percentiles

Audience:

District leaders, principals, and
district/school improvement team members

Prerequisites:

DU101 Using District Reports

Course Topics:

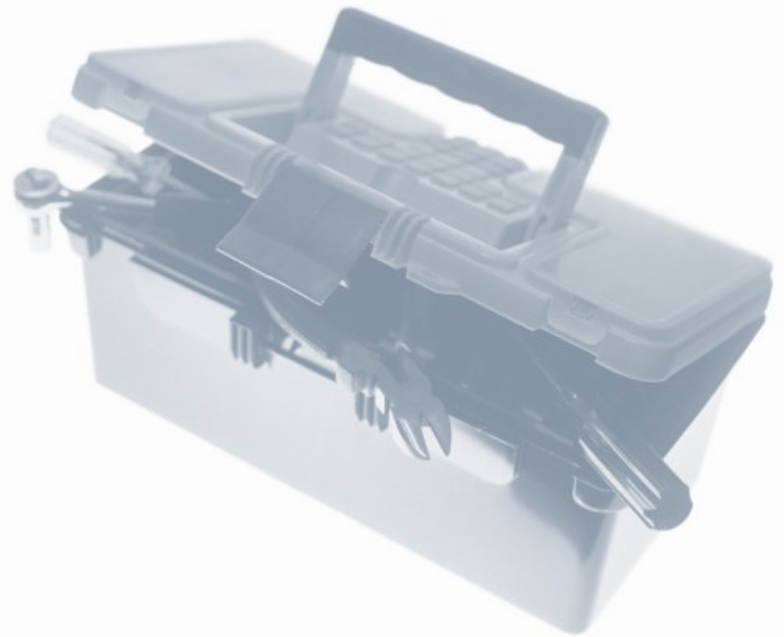
- What is growth and why measure it?
- Student growth percentiles
- Median SGP
- Answering growth-related questions through inquiry



Available Resources



- NJ SMART help desk
 - 1-800-254-0295
 - njsmart@pcgus.com
- www.njsmart.org help tab
- Training & Assistance





Temperature Check

How familiar are you with
student growth percentiles?

1

Not familiar.

I'm a little nervous.

2

Somewhat familiar.

But I have lots of questions.

3

Familiar.

I'd like more specifics.

4

Very familiar.

I can help others.

DU103: Using Student Growth Percentiles Agenda

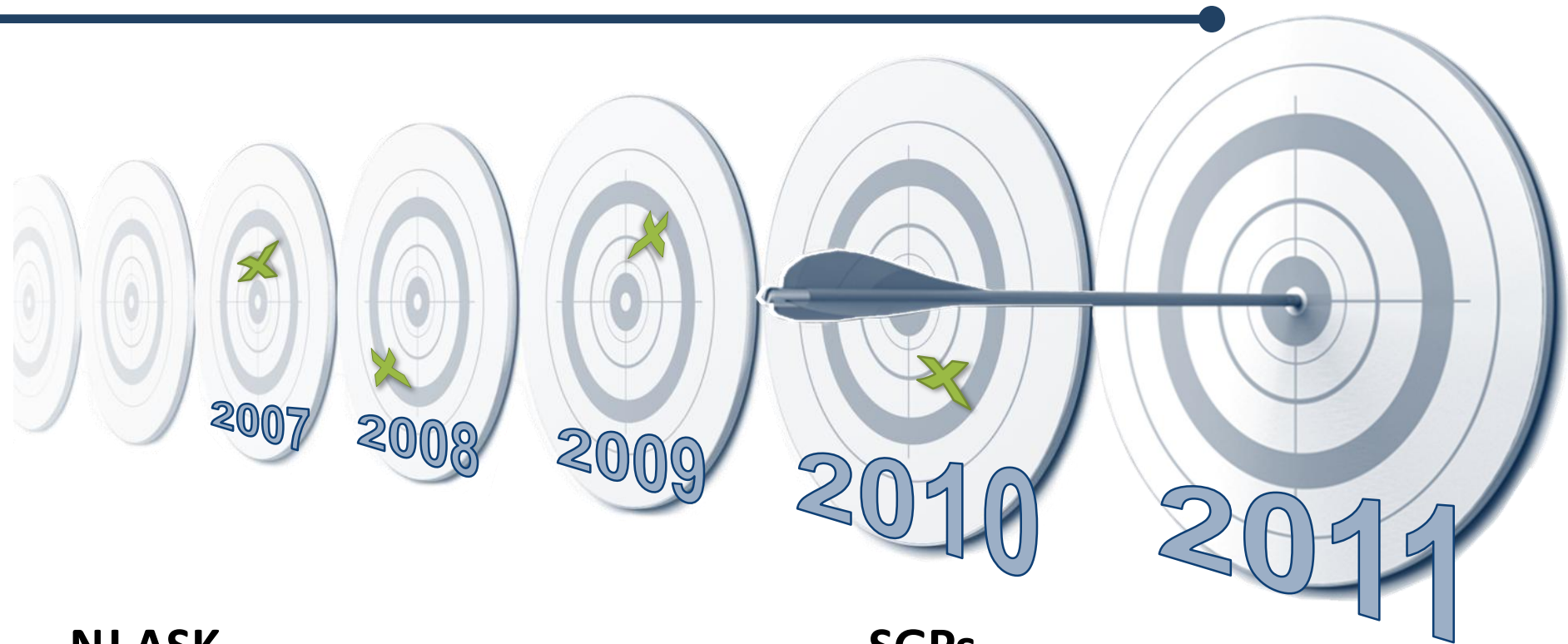
Introduction	Understand a new way to measure student performance
	Learn how student growth percentiles are developed
Interpreting SGP s	Learn how to interpret individual student growth percentiles
	Learn how to interpret student growth percentiles for groups
Using Growth Data	Use student growth data to ask new questions about student performance
	Learn how to access and use student growth data in District Reports
	Articulate what you've learned and what to do next



Introduction

- **Understand a new way to measure student performance**
- Learn how student growth percentiles are developed

What is Growth?



NJ ASK

- “Point in time” achievement
- *Did Tyler score proficient on the 2011 math assessment?*

SGPs

- Performance over time relative to peers
- *How has Tyler improved?*

Why Measure Growth?



- Growth makes it possible to see progress for students at all performance levels
- Growth data provide evidence of improvement for schools with large populations of challenging students
- Growth data enable us to identify where educators are making an impact over time

Benefits and Challenges



1. Form a group of 3-4 people.
2. As a group, identify three advantages or benefits to be derived from using growth data.
3. As a group, identify three challenges you may face when using growth data.
4. Record your ideas on the next slide.

Benefits and Challenges

Benefits

1. _____

2. _____

3. _____

Challenges

1. _____

2. _____

3. _____

Introduction



- Understand a new way to measure student performance
- **Learn how student growth percentiles are developed**

Academic Peers

Comparing a student's achievement to that of his **academic peers**

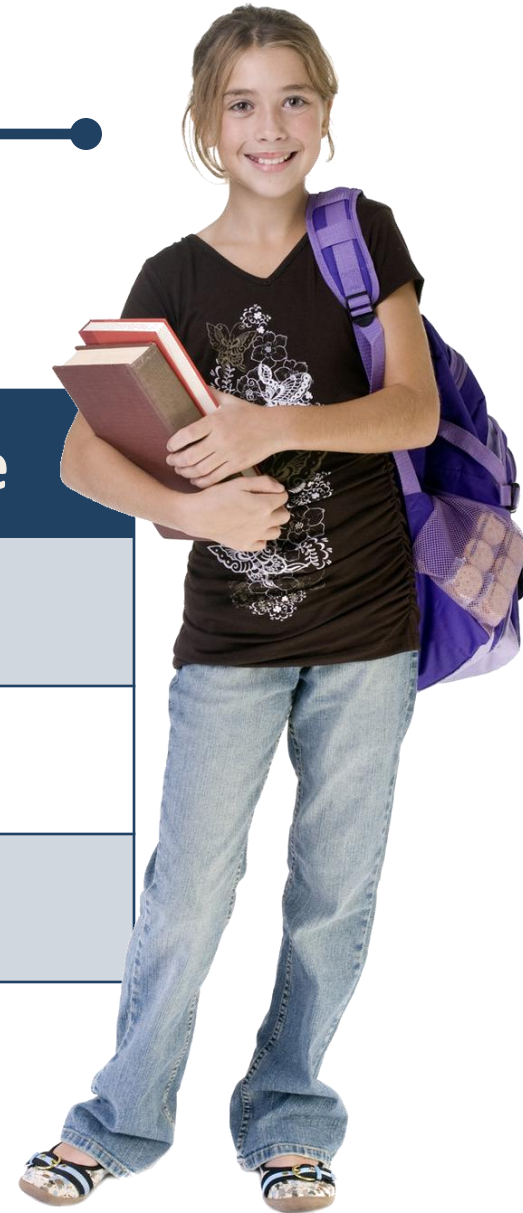


selection based **solely** on
NJ ASK achievement

Maria

Maria's Test History:

Grade	LAL NJ ASK Score
Grade 4	205
Grade 5	200
Grade 6	207



Maria's Academic Peers

Maria's Test History:

Grade	LAL NJ ASK Score
Grade 4	205
Grade 5	200
Grade 6	207

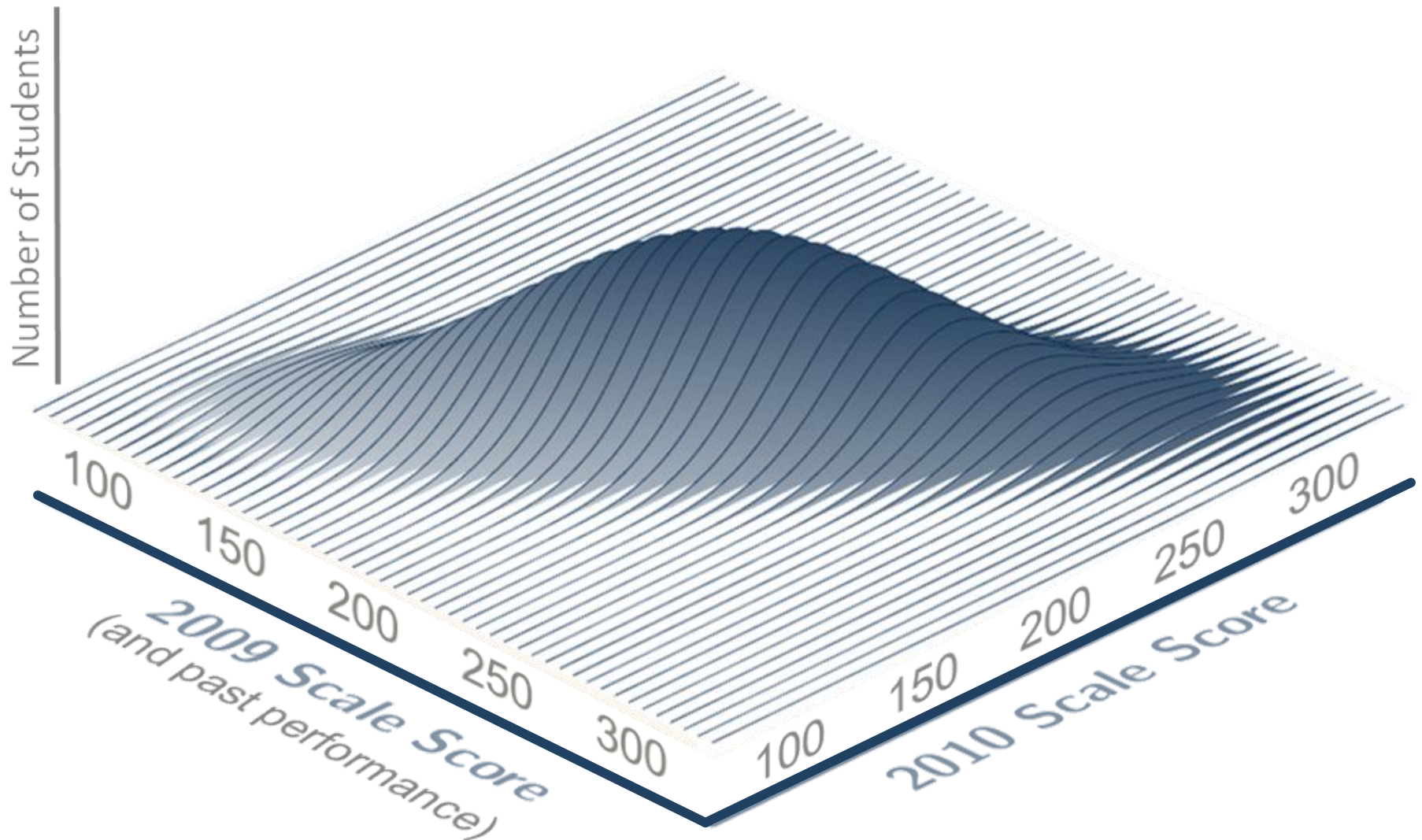
Maria's Academic Peers:

Grade	LAL NJ ASK Score
Grade 4	~205
Grade 5	~200
Grade 6	?

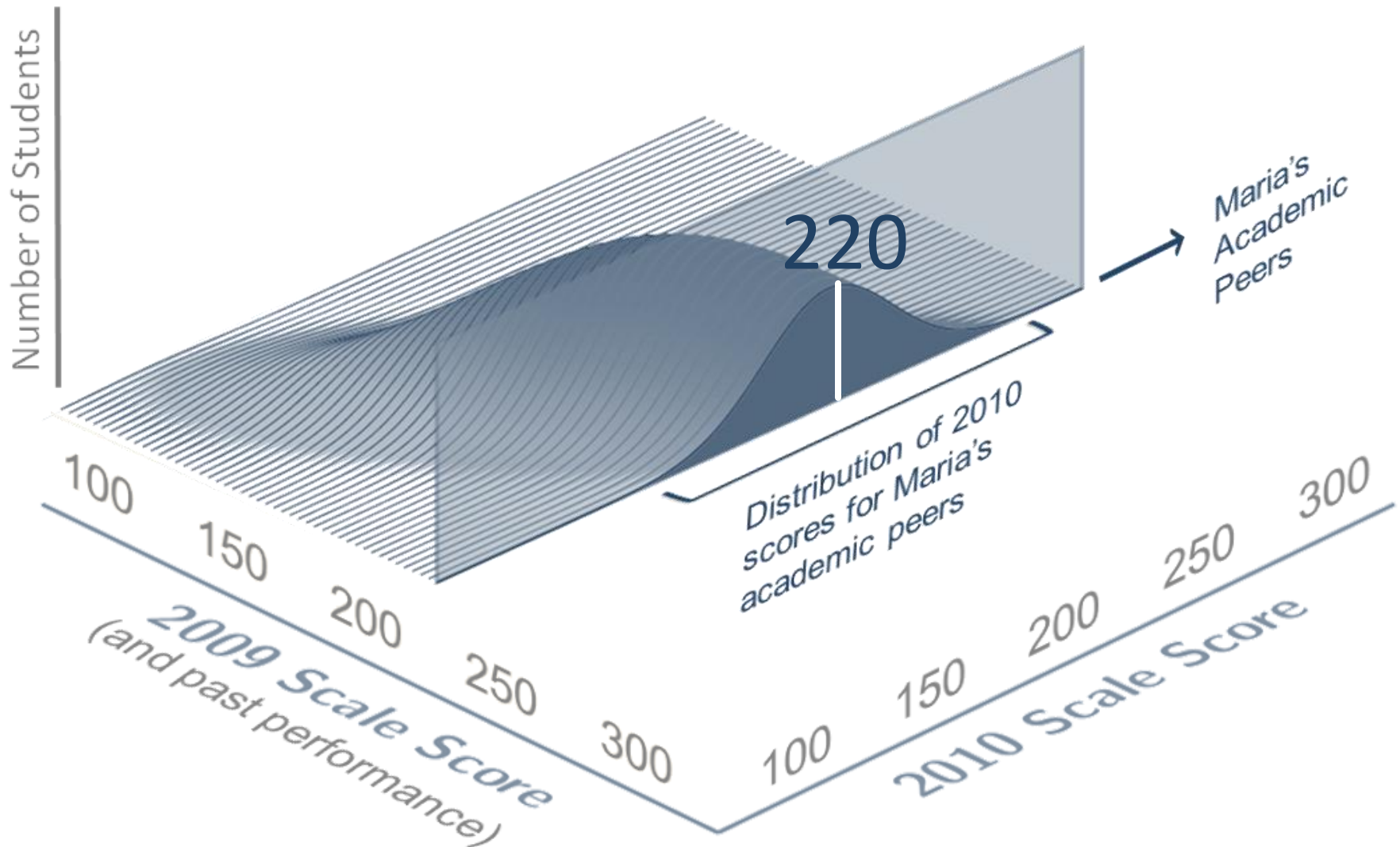
How have **similar students** changed?



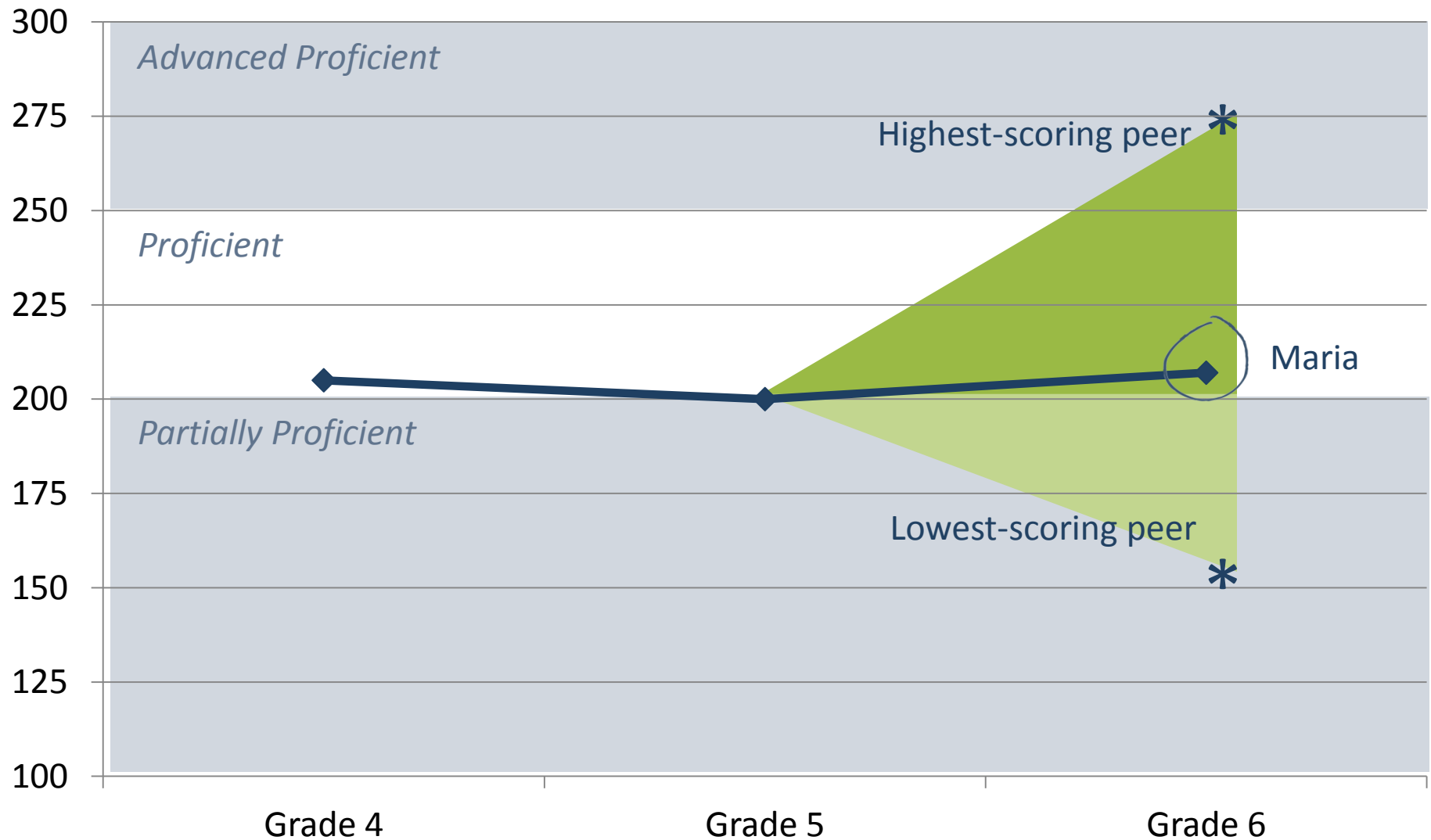
Scaled Score Distribution: All Students



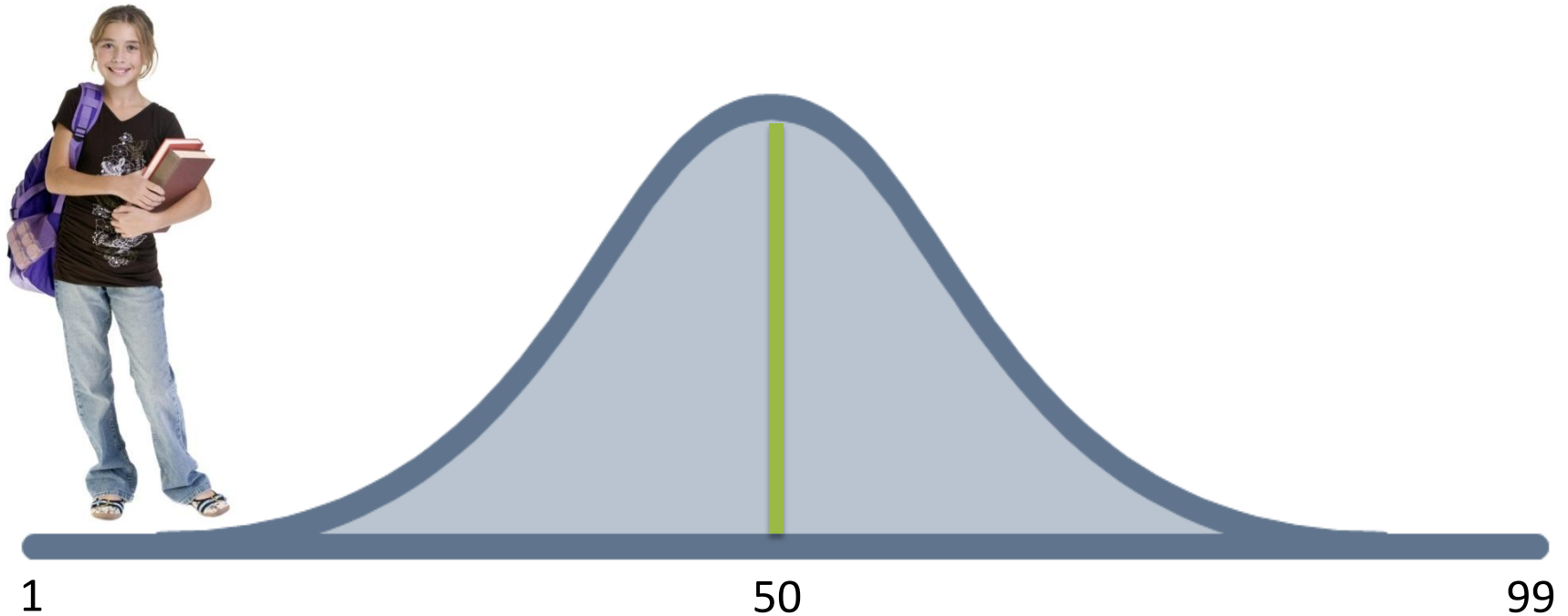
Scaled Score Distribution: Academic Peers



Determining Individual SGP



Percentile Rank



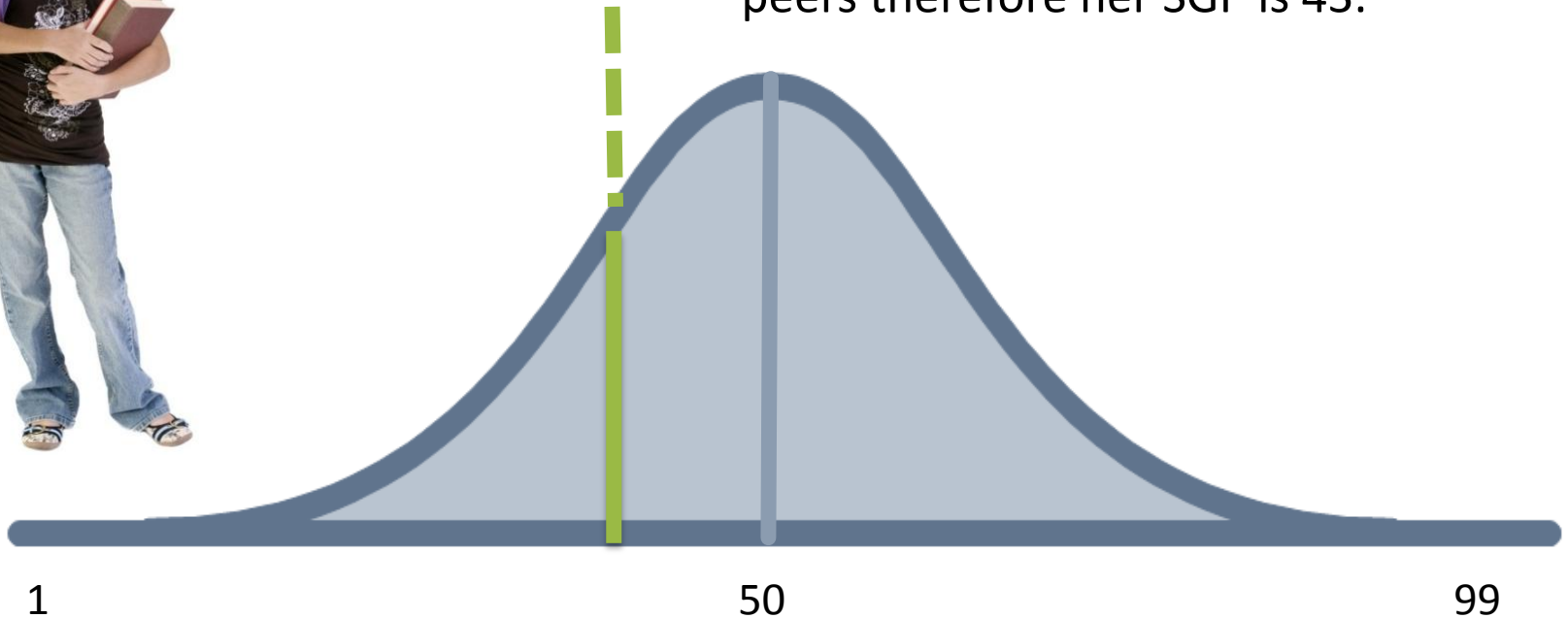
A percentile is a statistic that indicates the percentage of a reference group obtaining scores equal to or less than the individual's score. In this case, the reference group is Maria's academic peers.

Score Distribution: Maria's Position



43

In 2010, Maria scored equal to or higher than 43% of her academic peers therefore her SGP is 43.



Median SGP

Odd number of SGP scores

25

37

Median
SGP →

52

68

74

Even number of SGP scores

37

52

68

74

52

+ 68

$120/2 = 60$

Median
SGP ↑

Maria's 6th Grade Class

1	Hugh	6
2	Eve	12
3	Clarence	18
4	Clayton	21
5	Earnestine	23
6	Alejandra	27
7	Helen	30
8	Clinton	32
9	Maria	43
10	Emilia	47
11	Jaquelyn	55
12	Lance	61
13	Roxie	63
14	Laura	75
15	Allyson	81
16	Mathew	83
17	Julio	85
18	Selena	88
19	Ashlee	90
20	Charles	94
21	Milton	95

= Median SGP

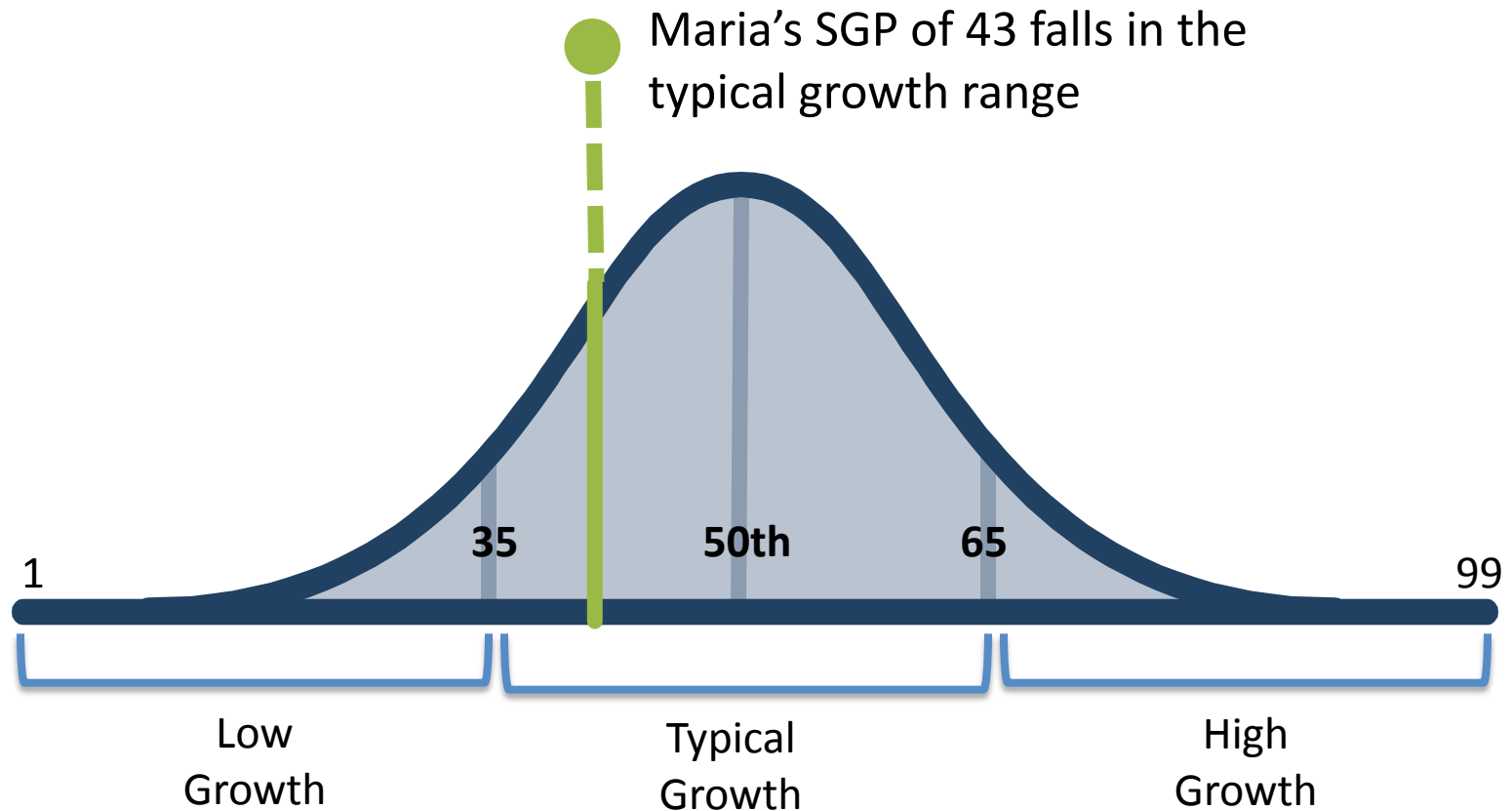


Interpreting SGPs



- **Learn how to interpret student growth percentiles for individuals**
- Learn how to interpret student growth percentiles for groups

Categorizing Growth



Interpreting SGPs

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- Learn how to interpret student growth percentiles for individuals
- **Learn how to interpret student growth percentiles for groups**

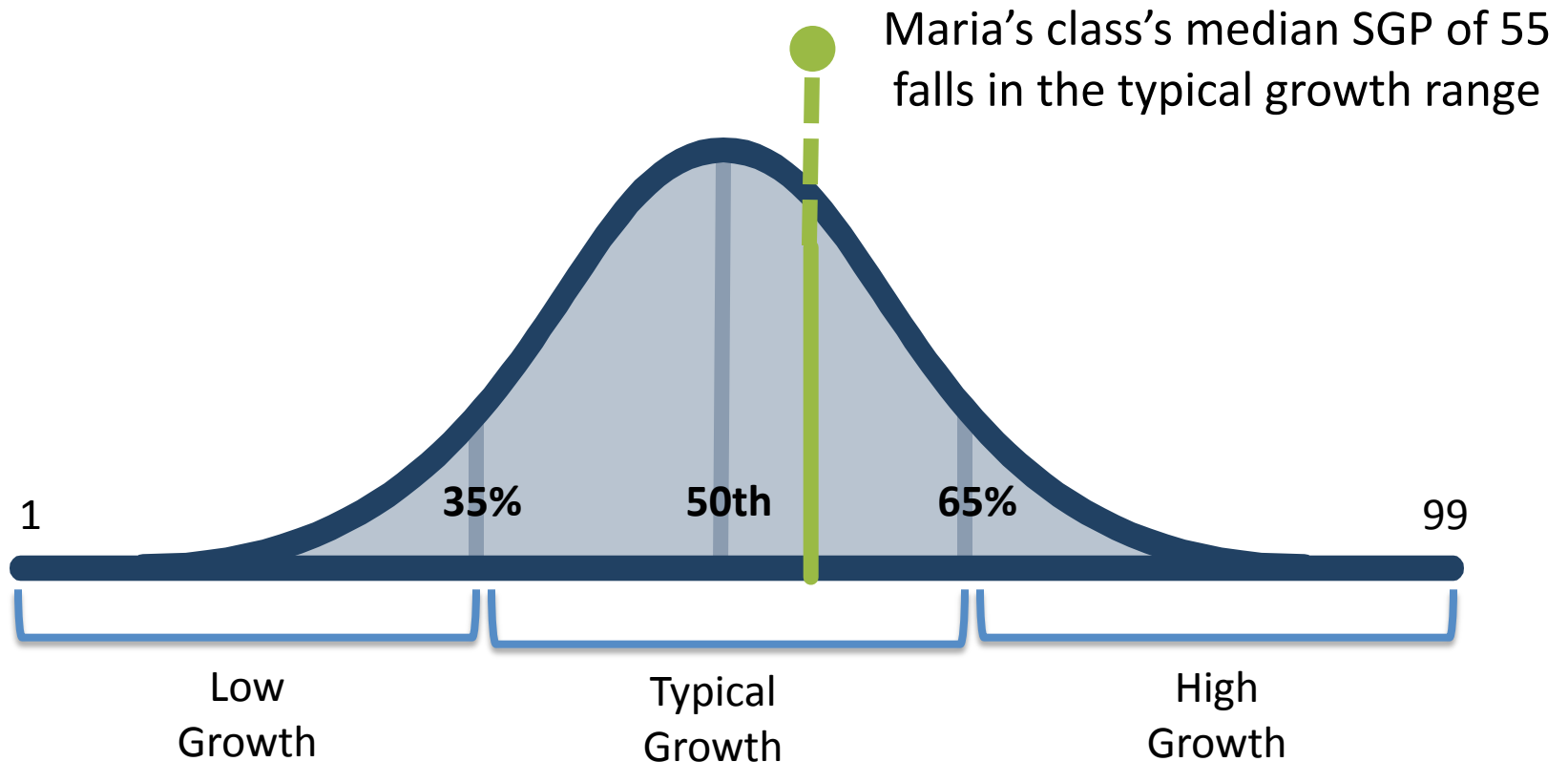
Maria's 6th Grade Class

1	Hugh	6
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11	Jaquelyn	55
12	Lance	61
13	Roxie	63
14	Laura	75
15	Allyson	81
16	Mathew	83
17	Julio	85
18	Selena	88
19	Ashlee	90
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21	Milton	95

= Median SGP

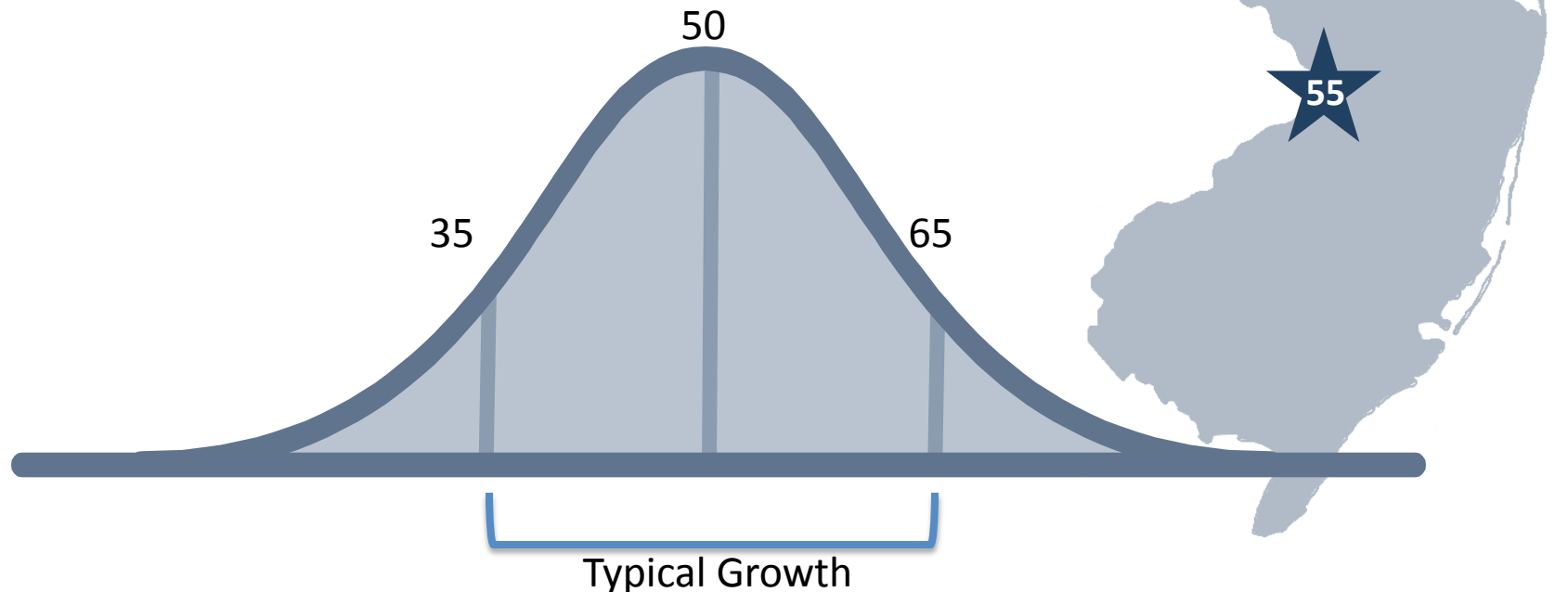


Categorizing Growth



Interpreting SGP

- How does this year's median SGP compare to...
 - Median SGP for other district schools?
 - Median SGPs from previous years?
 - Median SGPs of other grades in the school/district?





Using Growth Data

- **Use student growth data to ask new questions**
- Access student growth data in District Reports
- Articulate what you've learned and what to do next

Cycle of Inquiry and Action



1. Identify an Issue

And formulate questions to help define it



2. Understand the Issue

By analyzing data and refining questions



3. Diagnose the Cause

Through deeper analysis, observation, and best practice research



4. Plan Action

By setting measurable goals and articulating strategies



5. Take Action

While monitoring data to make adjustments



6. Evaluate

And reassess our situation

Identifying and Refining an Issue to Investigate

Achievement

FOCUSING QUESTION

Are there certain groups of students in my school that are having difficulty in mathematics?



Data Analysis!

CLARIFYING QUESTIONS

Which strands are causing them the most difficulty?

Over time, are students having difficulty with the same strands?

Are there patterns in the mistakes students are making?

Identifying and Refining an Issue to Investigate

Growth

FOCUSING QUESTION

Did the eighth grade students grow as much this year as they did last year as seventh graders?



Data Analysis!

CLARIFYING QUESTIONS

What was the growth for students who scored at the *Proficient* level? the *Partially Proficient* level?

What are the characteristics of the students who grew at a high or very high rate? the low or very low rate?

New Questions to Ask

A focusing question guides your inquiry. What focusing questions can we ask now that we have student growth percentiles?

- How much academic progress did an individual or group of students make in the last year?
- How does an individual student's growth compare to that of students with similar NJ ASK test score histories?
- Is our district's growth higher than the growth of other districts across the state?
- Are students in the pilot reading program demonstrating better growth than students in the traditional program at our school?

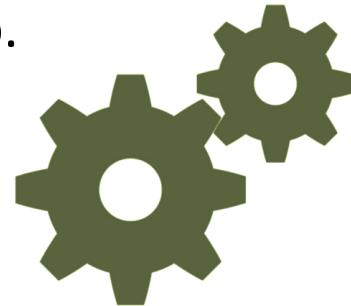
What other focusing questions can you think of?



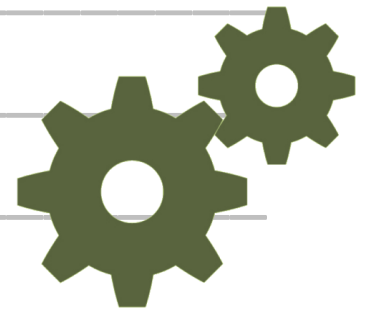
Activity 1: Formulating Good Questions

Let's generate a number of focusing questions related to issues in your district or school.

- As a group, brainstorm growth related questions that address issues in your school or district.
- Record your questions on a piece of chart paper and on the following slide.
- Identify the most important questions to be answered.
- Share the most important questions with the larger group.
- You will have about 10 minutes to complete this activity.



Activity 1: Formulating Good Questions



When Data Analysis Goes Bad...

Observe

“Something is wrong with our reading curriculum. 70% of our 6th graders scored Partially Proficient on the LAL NJ ASK.”

Assume

“We obviously don’t have the right focus in our grade 6 reading curriculum.”

Speculate

“Wouldn’t we get better results if we revamped our grade 6 reading curriculum?”

Act impulsively

“Let’s revamp our grade 6 reading curriculum.”



Observations vs. Inferences

Observations

- Observation of unarguable fact
- Factual interpretations
- Statements about quantities
- Specific information and/or numerical relationships
- Patterns and trends

“About 1/3 of our students grew at a low rate from grade 7 to 8 this year.”

Inferences

- Assumption of meaning from data
- Conclusions, explanations, or conjectures drawn from a data set
- Broad generalizations from small data sets

“Grade 7 to 8 growth data suggest that 1/3 of our students won’t meet the math proficiency requirement on time.”

Getting to the Right Action the Right Way

Observe



Make Inferences



Do we have enough information to
draw conclusions?

No

Yes

Draw Conclusions



Thoughtful Action





Using Growth Data

- Use student growth data to ask new questions
- **Access student growth data in District Reports**
- Articulate what you've learned and what to do next

Growth Data in District Reports

- What are District Reports?
 - Produced from the NJ SMART state-wide data warehouse
 - Provide both aggregate and individual student demographic and performance data
 - Now contain individual growth data (SGPs)
 - Will soon contain aggregate (Median SGPs) data
 - Enable educators to answer questions about achievement, growth, and overall performance (achievement + growth) in the context of demographic data.

General Types of District Reports

District Reports contain...

To help you answer questions like...

Aggregate reports

How many students in my district decreased in LAL growth from the 2008 Grade 7 NJ ASK to the 2009 Grade 8 NJ ASK assessment?

Student lists

Who are these students?

Student enrollment records

What other information can I learn about individual students?

Student assessment records

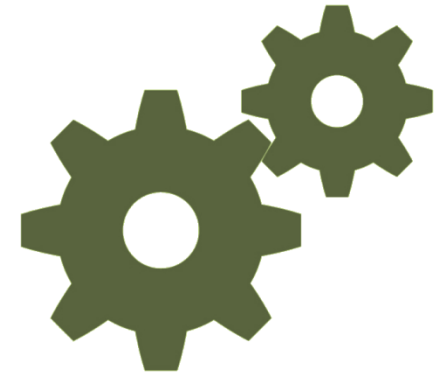
How has this student performed on other assessments he's taken?

District Reports Currently Available

Different District Reports	Answer different questions, like...
Grade Level Profile	What are the characteristics and performance of students across grade levels?
School Profile	What are the characteristics and performance of students across schools?
Cohort Performance Profile	What are the characteristics of students who increased, stayed the same, or decreased in state assessment performance over 2 years?
At-Risk Profile	What are the characteristics and performance of students who may be at risk of academic failure or dropping out of school as measured by prior year Math or LAL Partially Proficient and overage for grade?
Special Education Classification	What are the characteristics and performance of special education students across each special education classification?
Special Education Placement	What are the characteristics and performance of special education students across each special education placement?
High School Graduation Cohort Status Profile	Characteristics and performance of high school students from a specified 4-year graduation cohort, including graduation rates and statuses towards graduation

Let's Investigate!

As a group, let's investigate a focusing question:
*How did growth on the most recent 5th grade
LAL test compare across all elementary
schools in the district?*



Which District Report do we need?

Modify Report Selection									
NJ A SK STUDENT GROWTH PROFILE (SA*)									
State Snapshot Report: Jun 30, 2010 (Generated: 10/5/2011)									
SAMPLE DISTRICT				Test Year: 2009-2010					
Multiple Schools Selected				Grade Level: Grade 5					
Subject: LAL									
Student Characteristics	Total Students		Median SGP	Low Growth (1-34)		Typical Growth (35-65)		High Growth (66-99)	
	# of Students	% of Total		# of Students	% of Total	# of Students	% of Total	# of Students	% of Total
Total Students	241	100.0%	50.0	92	38.2%	58	24.1%	91	37.8%
School									
Elementary School 1	41	17.0%	52.0	16	39.0%	8	19.5%	17	41.5%
Elementary School 2	51	21.2%	30.0	29	56.9%	13	25.5%	9	17.6%
Elementary School 3	24	10.0%	55.5	8	33.3%	6	25.0%	10	41.7%
Elementary School 4	39	16.2%	65.0	10	25.6%	10	25.6%	19	48.7%
Elementary School 5	56	23.2%	65.0	19	33.9%	12	21.4%	25	44.6%
Elementary School 6	30	12.4%	65.0	10	33.3%	9	30.0%	11	36.7%
Gender									
Female	114	47.3%	51.0	38	33.3%	30	26.3%	46	40.4%
Male	127	52.7%	48.0	54	42.5%	28	22.0%	45	35.4%
Race/Ethnicity									

Worksheet 1: Data Analysis Protocol

Issue:

Student growth in elementary schools across the district

Question(s):

How did growth on the most recent LAL 5th grade test compare across all elementary schools in the district?

Observations:

1. School 2 had a significantly lower Median SGP than any of the other schools (30).
2. All schools except school 2 were in the “typical growth” range.
3. School 2 was 5 SGP points below the “typical growth” range.
4. School 2 had a much larger percentage of students in the low growth range than did any other school (56.9%).

Inferences:

1. The 5th grade LAL program in School 2 is not as effective as the program in the other schools.
2. LAL instruction is not as effective in School 2 as in the other schools

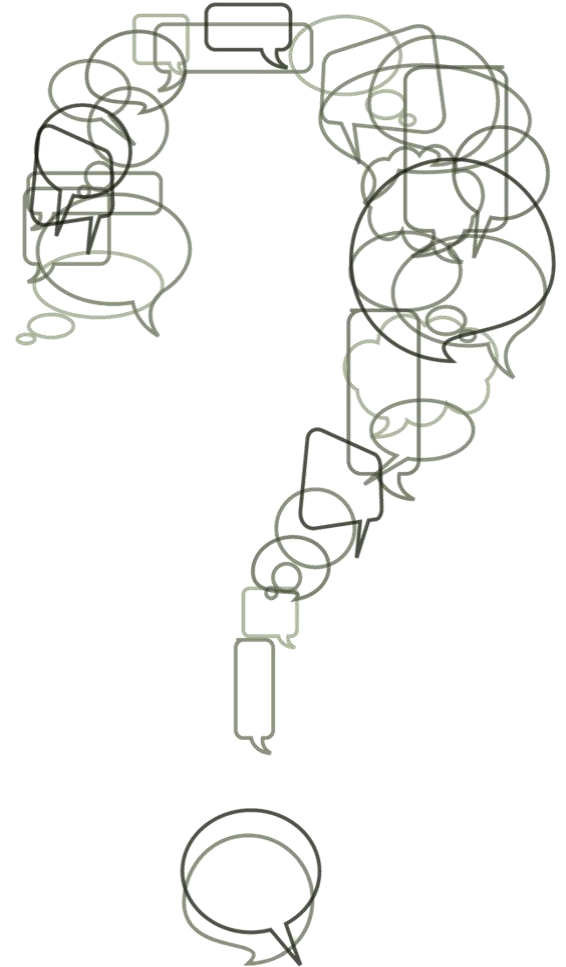
Clarifying Questions:

Additional Data Needed:

Tentative Conclusions or Additional Clarifying Questions:

Now to Your Focusing Question!

Let's spend the balance of our time together working with your focusing questions and your local data.

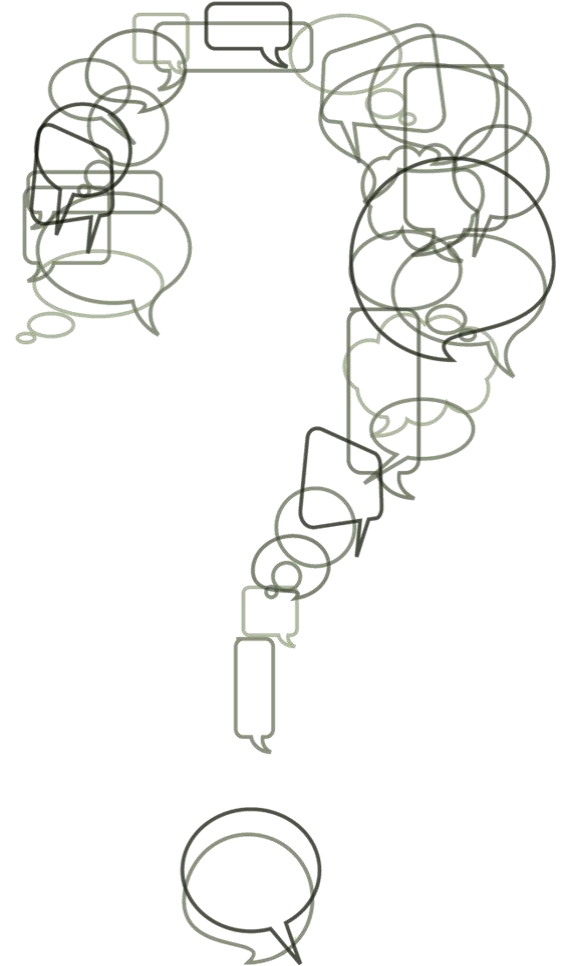


What Will We Need?

1. A focusing question of interest to you. You may choose from those we developed as a group or author your own.
2. Ability to access NJ ASK Growth Reports in the NJ SMART Data Warehouse.
3. Exploring Local Growth Data Worksheet 3 (page 42)
4. The *DU103 Handbook: Using Student Growth Percentiles* will provide you with:
 - More background information on data analysis
 - Information that you need to log onto the NJ SMART Data Warehouse (page 35)

Investigating Clarifying Questions

What clarifying questions do the observations you made suggest?



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Using Growth Data

- Use student growth data to ask new questions
- Access student growth data in District Reports
- **Articulate what you've learned and what to do next**

Benefits and Challenges Revisited

Benefits

1. _____

2. _____

3. _____

Challenges

1. _____

2. _____

3. _____

Wrapping Up: You've learned...

- How growth data help in educational decision-making
- How student growth percentiles and median student growth percentiles are developed and interpreted
- How to access and use District Reports that contain NJ ASK growth data
- How to use the Inquiry Process to analyze the data in growth reports to answer focusing and clarifying questions

Now What?



- Who else in your school or district needs to understand this material?
- What are the key concepts you'll want to share with others?
- What technical information would be helpful for others in your school/district to know?
- What will be your plan to make sure this occurs?

Available Resources

Tools

- DU103 Handbook
- Presentation materials
- NJ SMART Data Warehouse

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