
LOS ANGELES UNIFIED SCHOOL DISTRICT
BOARD OF EDUCATION
AGT 201: A Deeper Understanding of Academic Growth over Time
Fall 2011
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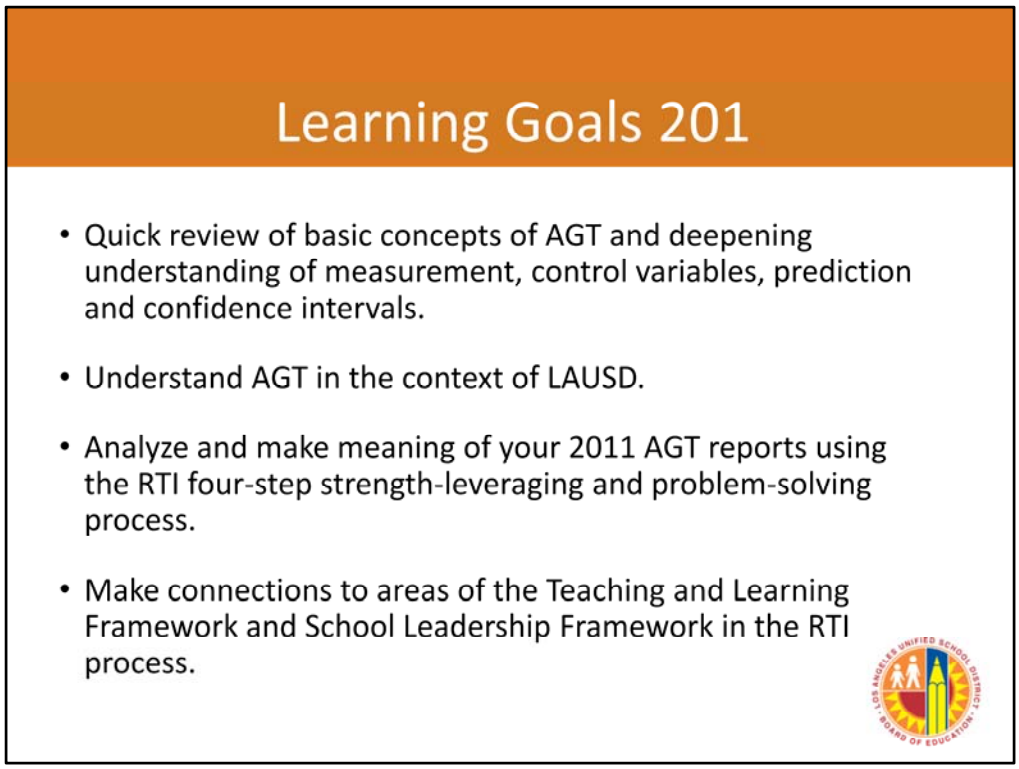
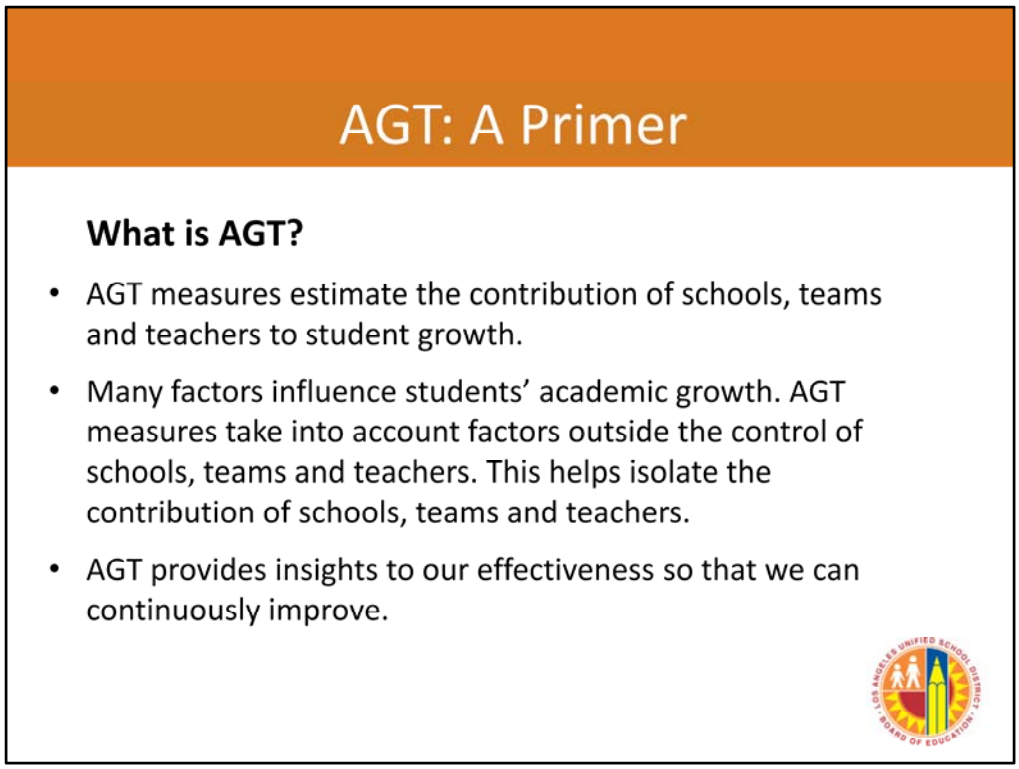


The following learning goals will be addressed during today's session.

Pause and allow time for reading.

READY? LET'S GO!



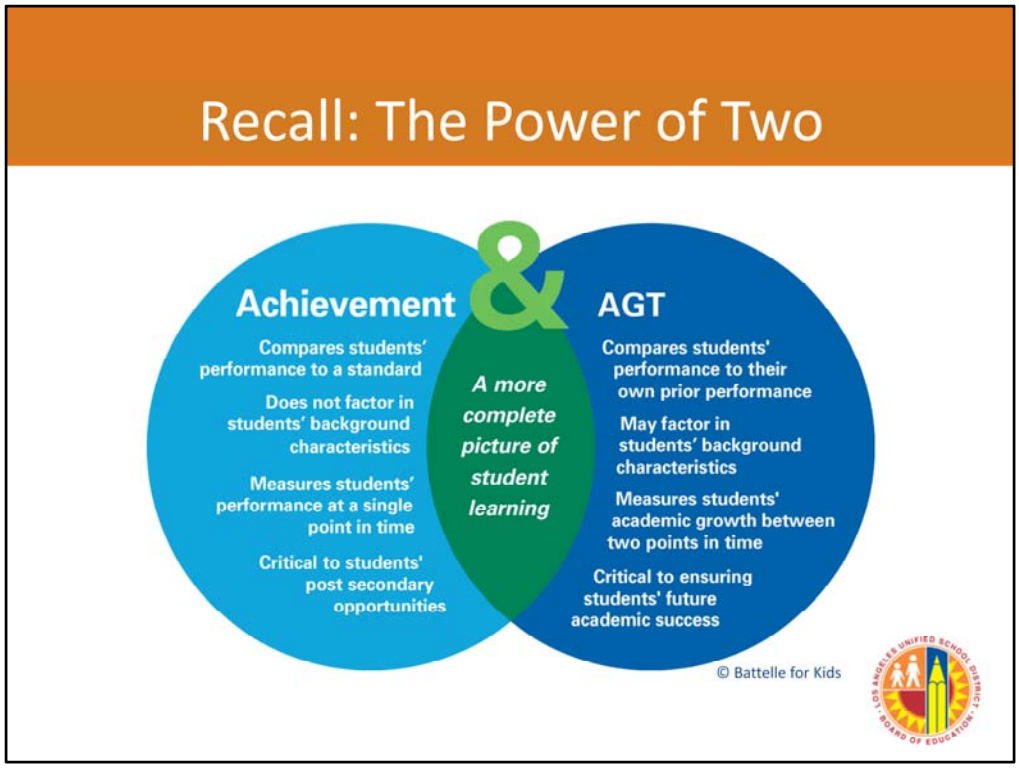
Although many of you have heard the term "value-added" before, there is often confusion as to the real meaning. Having a common understanding of AGT will lay the foundation for what is to follow. AGT, is one of many measures used to measure teacher and school contribution to student learning. It takes into consideration variables that are out of the control of the school or teacher. By considering these variables, it helps to isolate the actual contributions of schools and teachers. When combined with other measures it becomes even more powerful.

AGT: A Primer

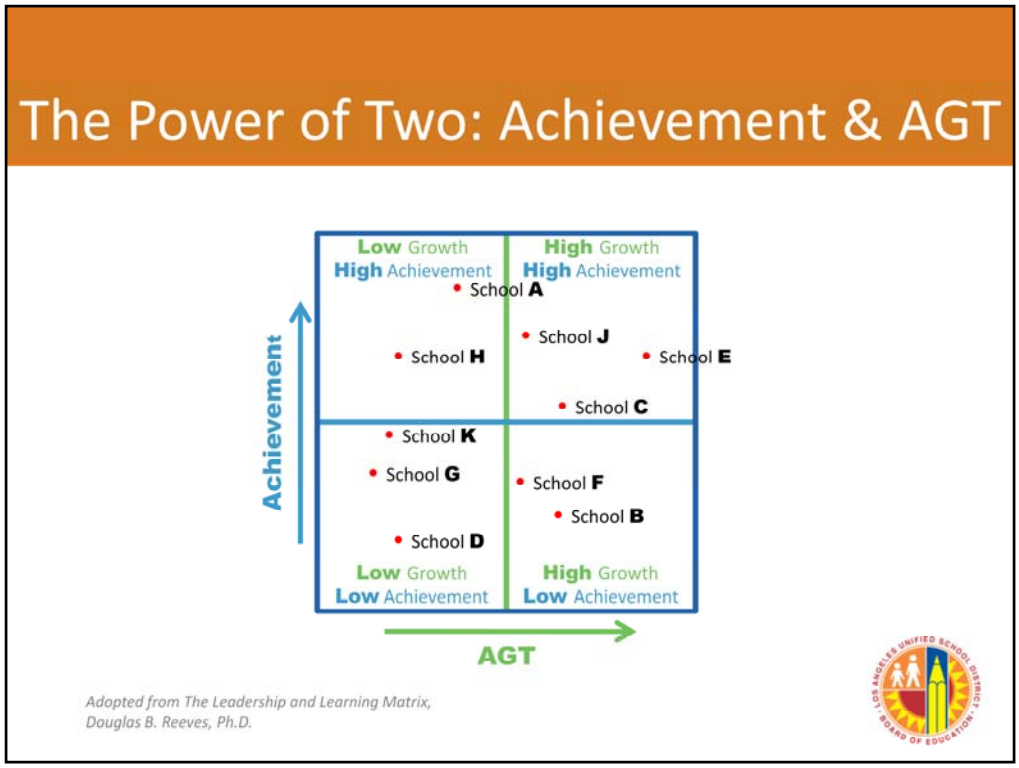
Why AGT?

- To support educators in a continuous improvement process
- To provide information in addition to achievement data that isolate the contributions of schools and teachers on the learning of students
- To promote educator collaboration within schools, grade levels and subjects
- To promote responsive and reflective teaching
- To increase the learning of all students in your district
- To recognize and validate teacher and school contributions to student growth

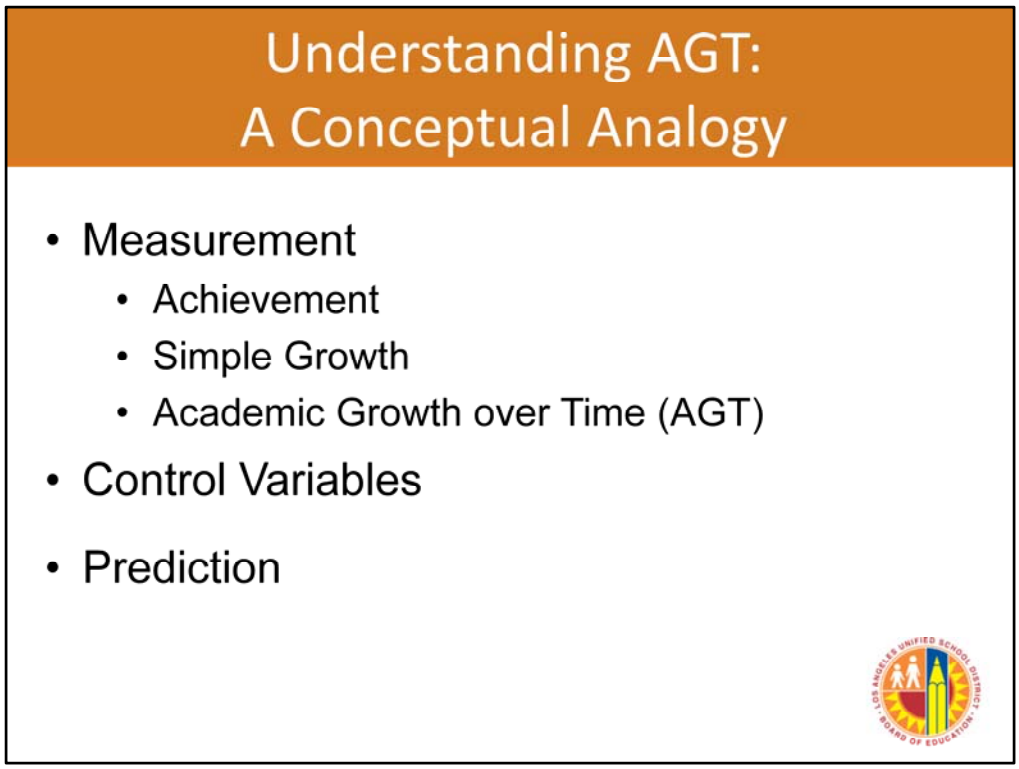
This list on this slide summarizes the reasons LAUSD is adopting AGT.



Recall the power of two.

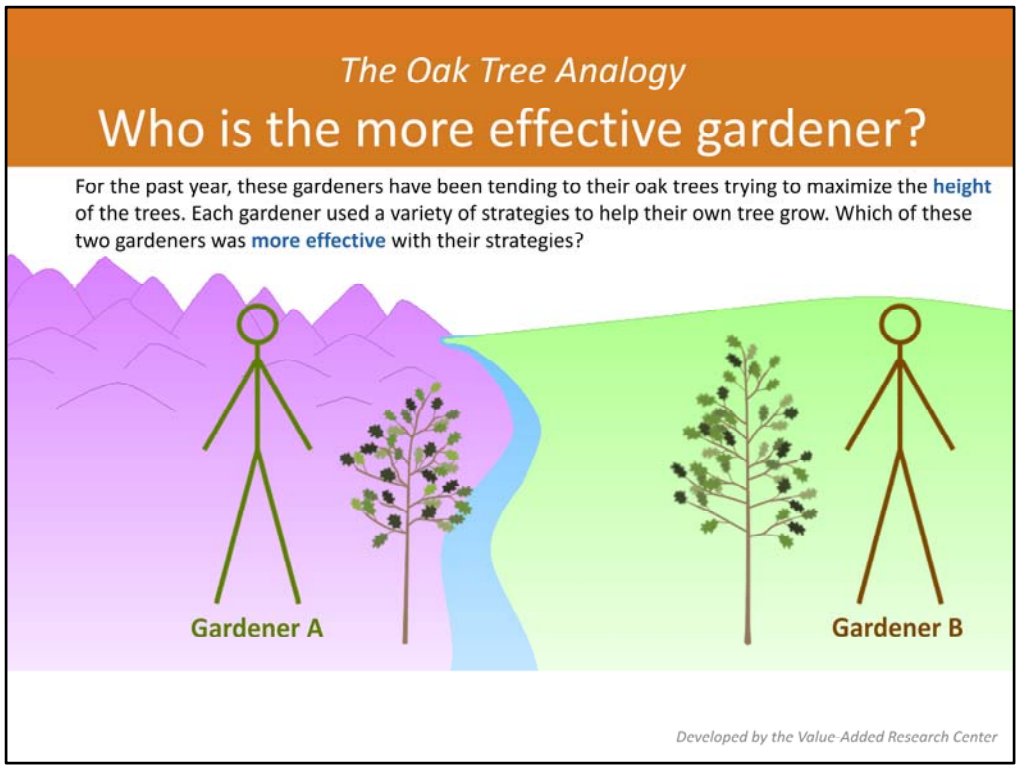


When we distinguish this grid by adding another dimension…AGT, we see that there are clear differences between schools H and E and schools F and G. We will explore these differences in the following examples.

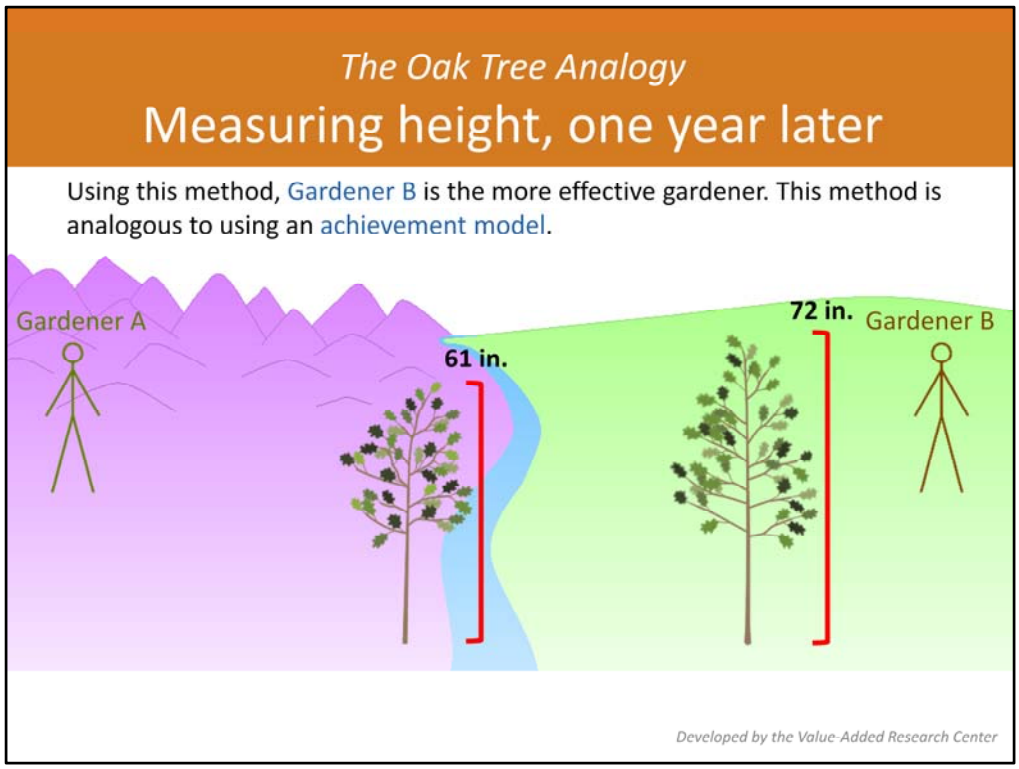


In this analogy, we will look at concepts of achievement, simple growth and AGT. We will also explore the concept of prediction and controlling for variables.

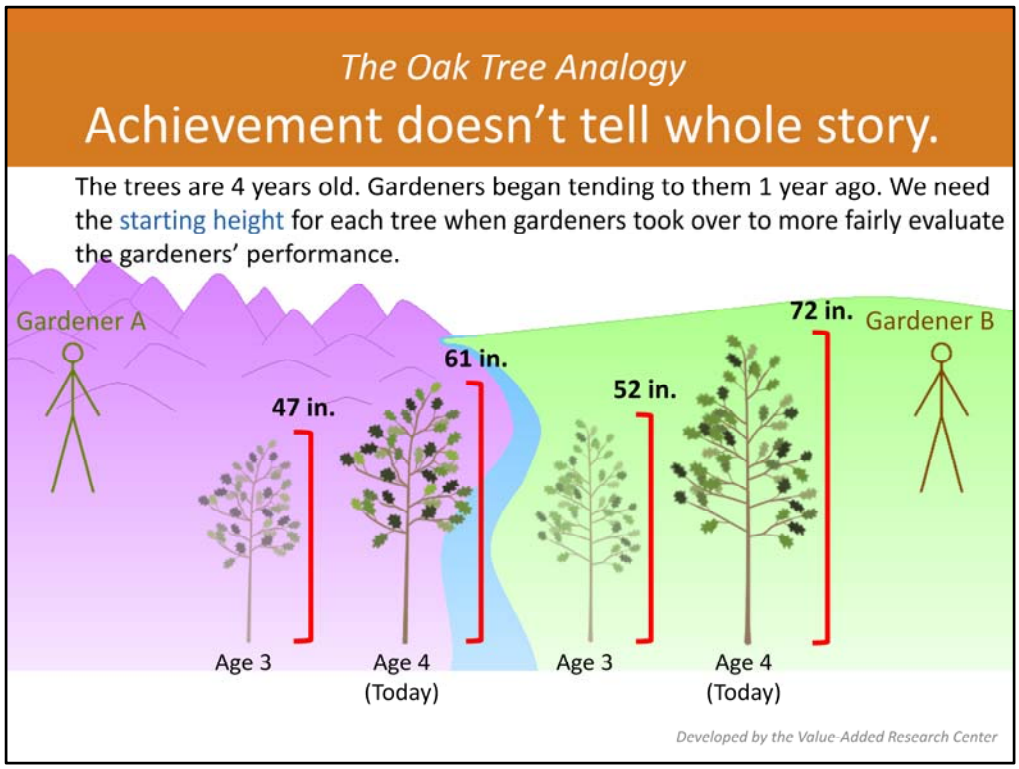
- Measurement
  - Attainment
  - Simple Growth
  - Academic Growth over Time
- Control Variables
- Prediction



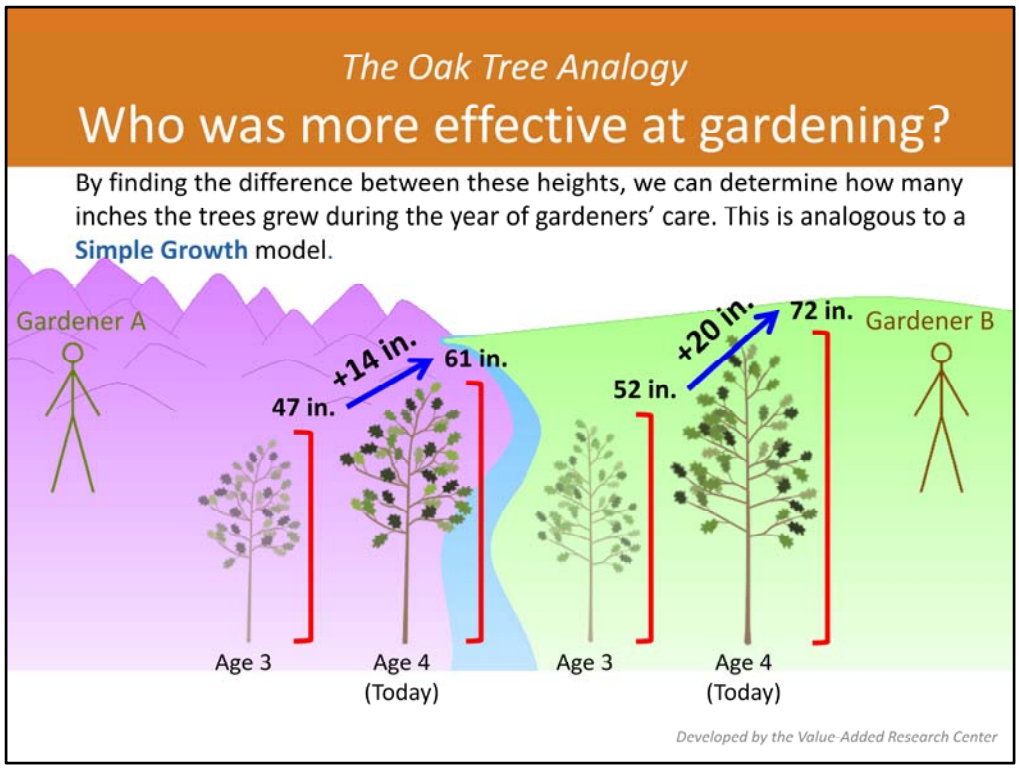
For the past year, these gardeners have been tending to their oak trees trying to maximize the height of each tree. Each gardener used a variety of strategies to help their own tree grow. We want to learn which of these two gardeners was more effective with their strategies.



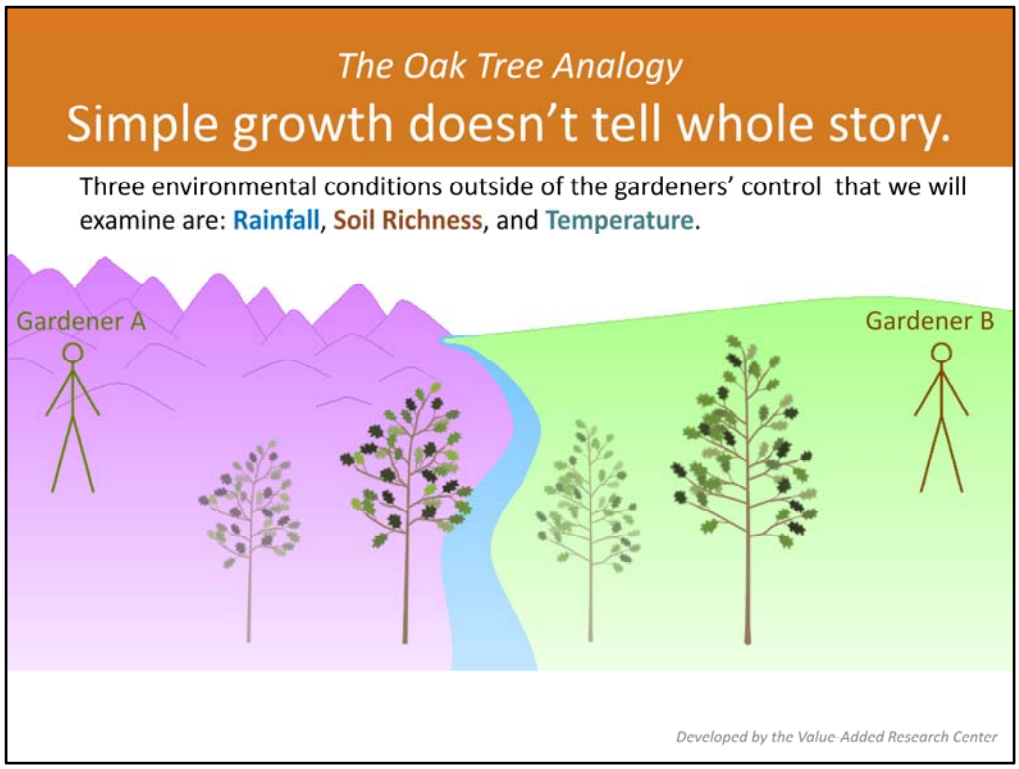
To measure the performance of the gardeners, we will measure the height of the trees today, 1 year after they began tending to the trees. With a height of 61 inches for Oak Tree A and 72 inches for Oak Tree B, we find Gardener B to be the more effective gardener. This method is analogous to using an Achievement Model to evaluate performance.



But, this achievement result does not tell the whole story. More data is needed! These gardeners did not start with acorns. The trees are 4 years old at this point in time. We need to find the starting height for each tree in order to more fairly understand each gardener's performance during the past year.



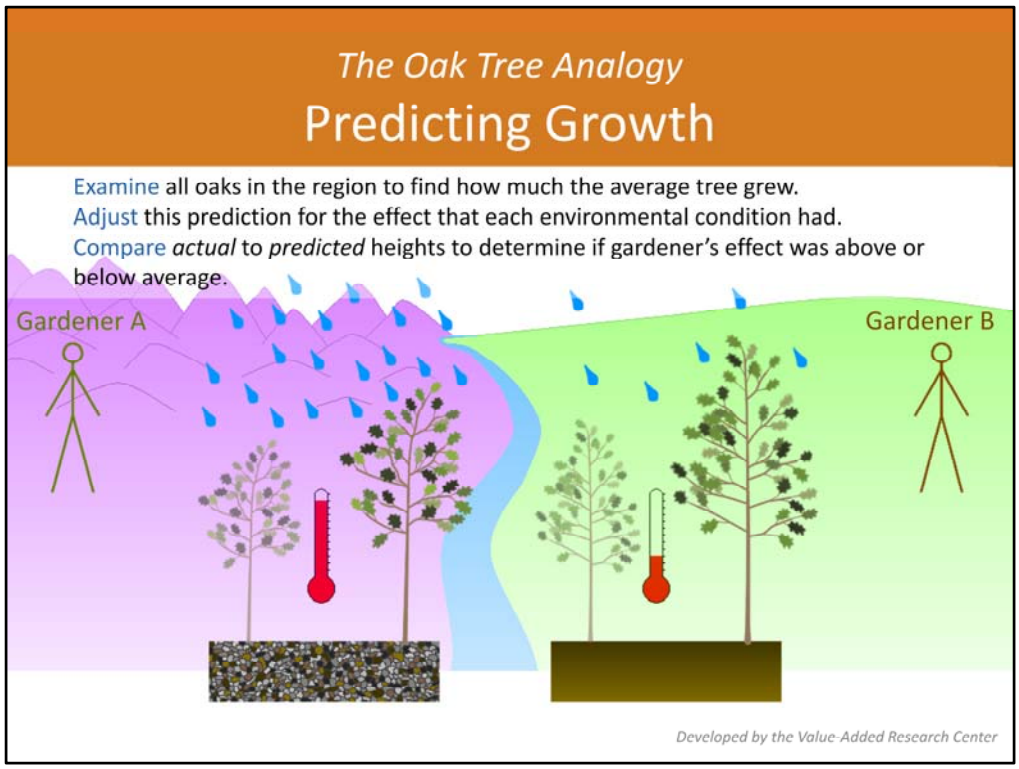
We can compare the height of the trees one year ago to the height today. By finding the difference between these heights, we can determine how many inches the trees grew during the year of gardener's care. By using this method, Gardener A's tree grew 14 inches while Gardener B's tree grew 20 inches. Oak B had more growth this year, so Gardener B is the more effective gardener. This is analogous to using a Simple Growth Model.



But this simple growth model does not tell the entire story either. We do not know how much of this growth was due to the strategies used by the gardeners. This is an "apples to oranges" comparison. What might be some environmental factors that are out of the gardeners' control?

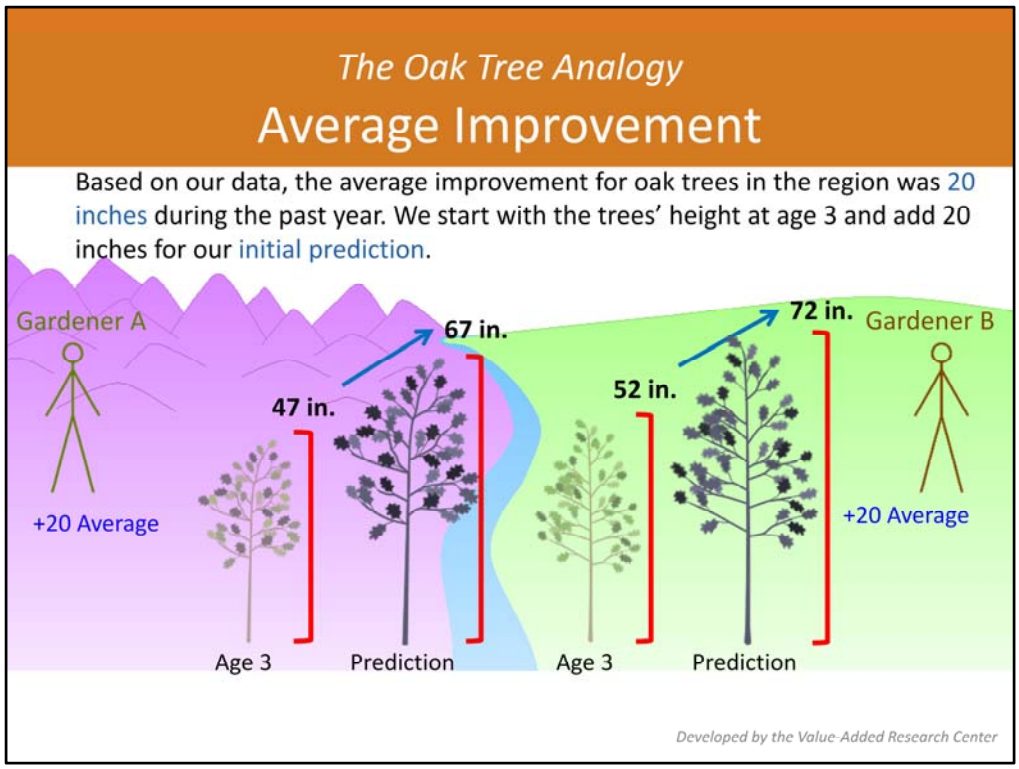
Pause

For this example, we will look at rainfall, temperature and soil richness.

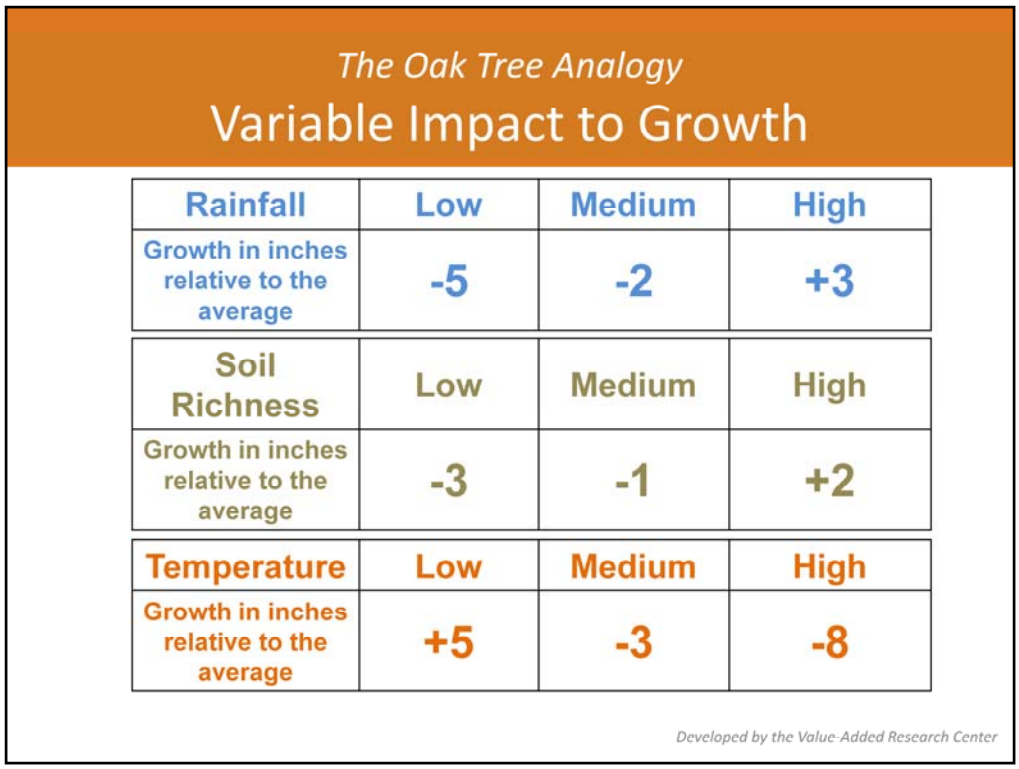


Based on the data for our trees, we can see what kind of external conditions the trees experienced. The data tell us that Oak Tree A was in a region with high rainfall, low soil richness and high temperatures. Oak tree B was in a region with low rainfall. High soil richness and low temperatures.

We can use this information to calculate a predicted height for each tree today if it was being cared for by an average gardener in the area. We examine all oak trees in the region to find an average height improvement for trees. Then we adjust this prediction for the effect of each tree's environmental conditions. We compare the actual height of the trees to their predicted heights to determine if the gardener's effect was above or below average.

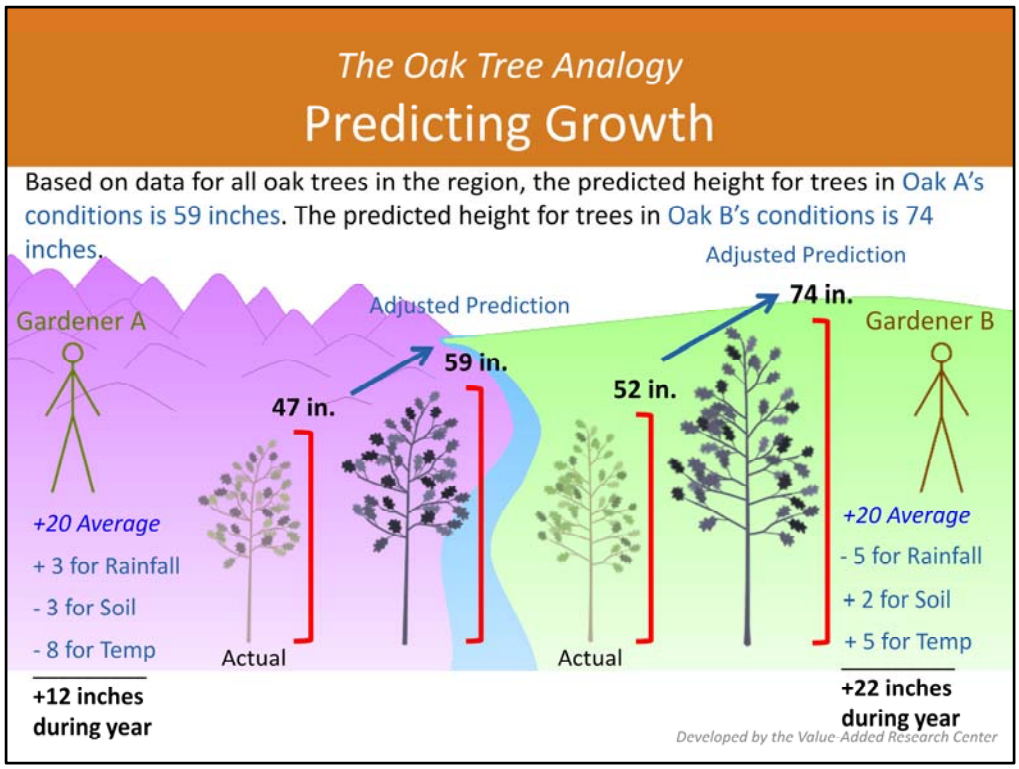


Remember, to make our initial prediction, we use the average height improvement for all trees. Based on our data, the average improvement for oak trees in the region was 20 inches during the past year. We start with the trees' height at age 3 and add 20 inches for our initial prediction. Next, we will refine our prediction based on the growing conditions for each tree.

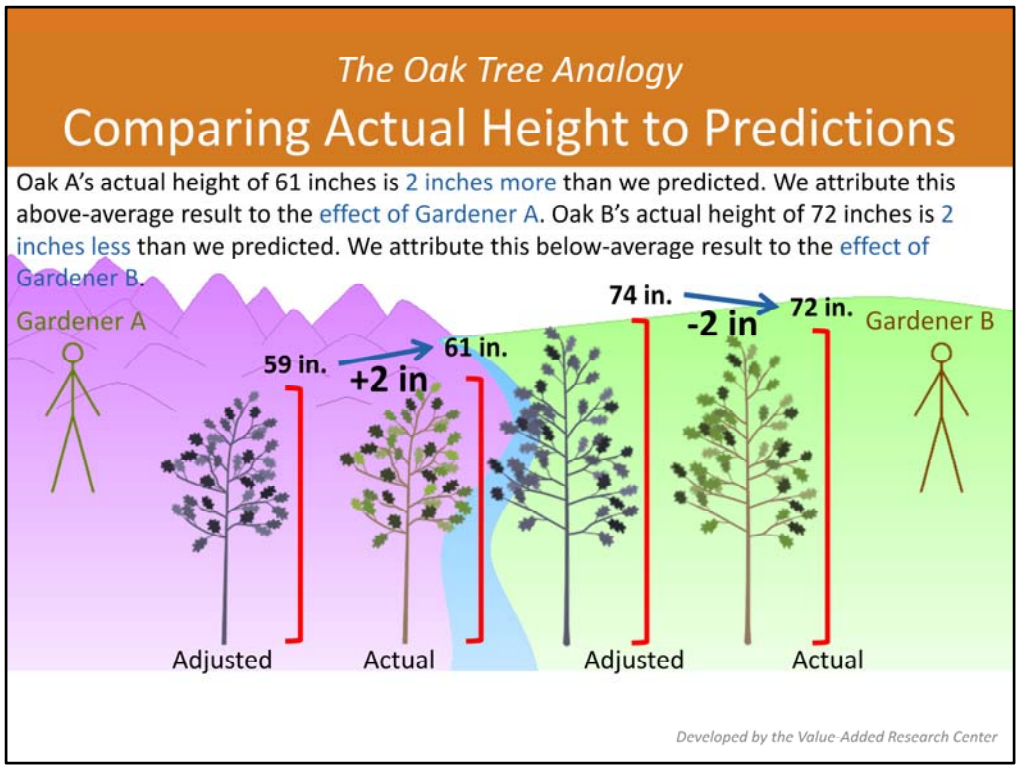


From the data we collected for our region, we find that more rainfall and higher soil richness contributed positively to growth. Higher temperatures contributed negatively to growth. With those growth trends, we need to convert them into a form usable for our predictions.

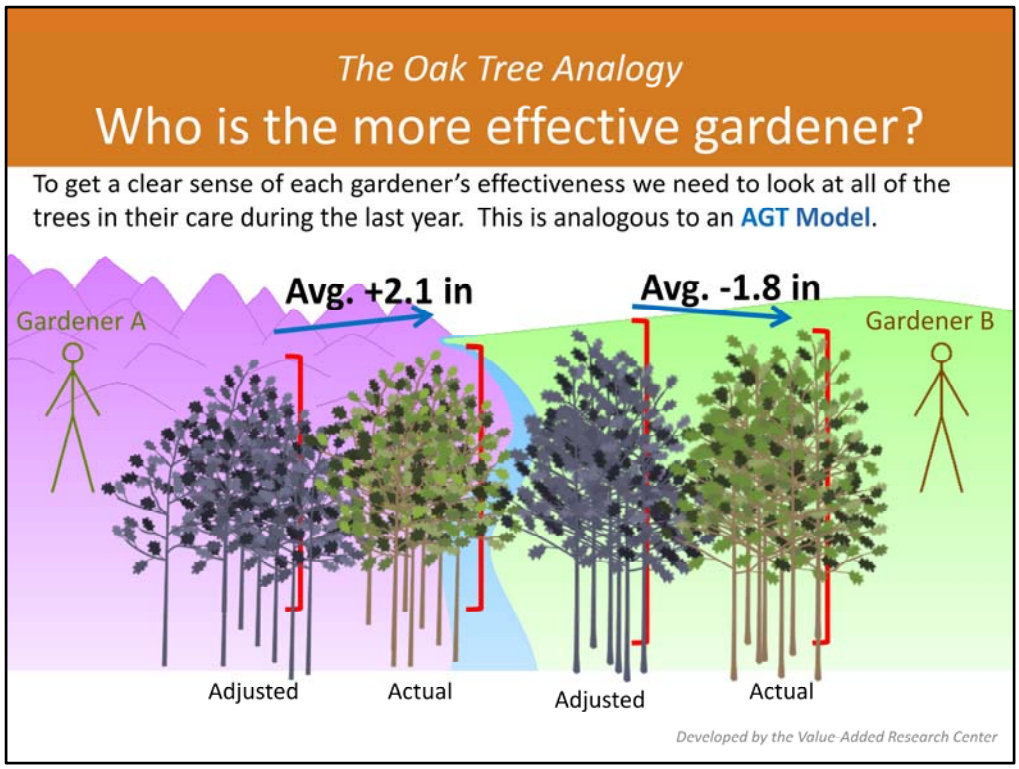
For example, we found that oak trees that experienced low rainfall tended to have 5 fewer inches of growth compared to the average growth of oak trees in the region. Trees with medium rainfall tended to have two fewer inches of growth and tress with high amounts of rainfall tended to have three more inches of growth compared to the average. This table shows the adjustments made for all three environmental conditions.



Since oak tree A had high rainfall, low soil richness and high temperatures we adjusted the initial prediction of 20 inches by adding three inches, subtracting three inches and subtracting eight inches again to compensate. The same process was conducted for oak tree B. Once we have refined our predictions based on the effect of environmental conditions, our gardeners are on a level playing field. The adjusted predicted height for trees in Oak A's conditions is 59 inches. The adjusted predicted height for trees in Oak B's conditions is 74 inches. This is an apples to apples comparison.



When we compare the actual height of the trees to our predictions we find that Oak A's actual height of 61 inches is 2 inches more than we predicted. We attribute this above-average result to the effect of Gardener A. Oak B's actual height of 72 inches is 2 inches less than we predicted. We attribute this below-average result to the effect of Gardener B.



To get a clear sense of each gardener's effectiveness, we need to look at all of the trees in their care during the last year. For Gardener A, some trees may have grown more or less than the 2 inches to give an average of 2.1 inches above predicted. For Gardener B, the average growth was 1.8 inches less than the prediction. This is analogous to an AGT model. Now, who is the most effective gardener? Note: AGT applies several statistical techniques beyond a simple average to ensure statistical significance.

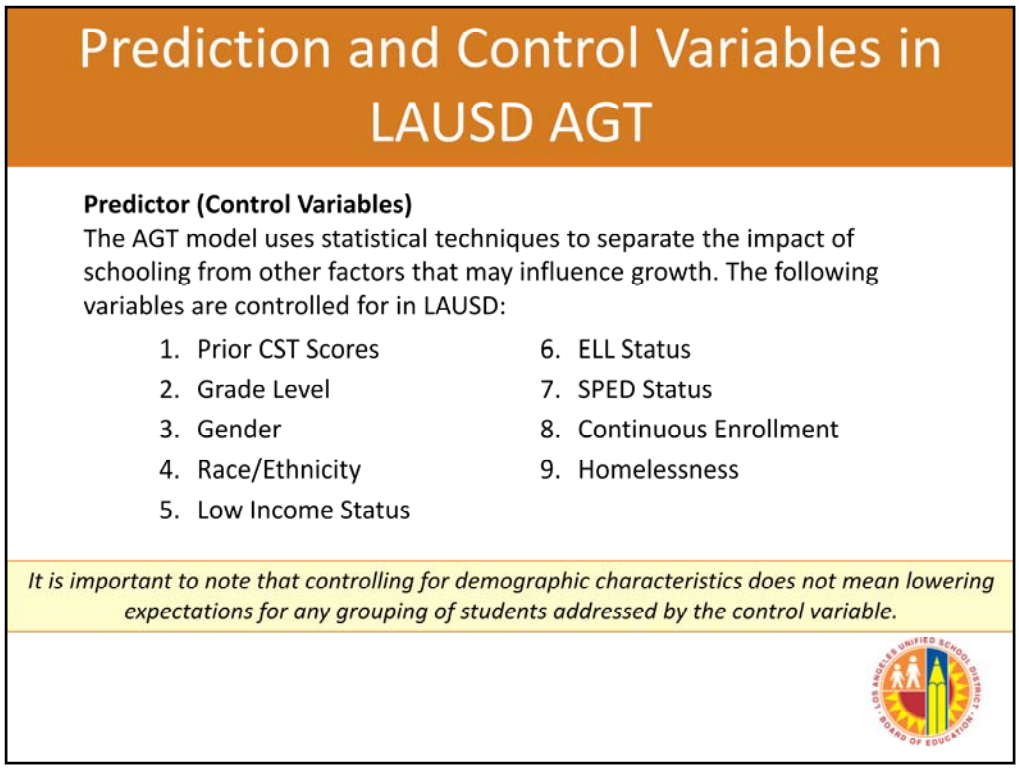
Pause and Reflect

- Which measure was fairer in inferring the effectiveness of the two gardeners?

	STRENGTH	LIMITATION
Achievement		
Simple Growth		
AGT		

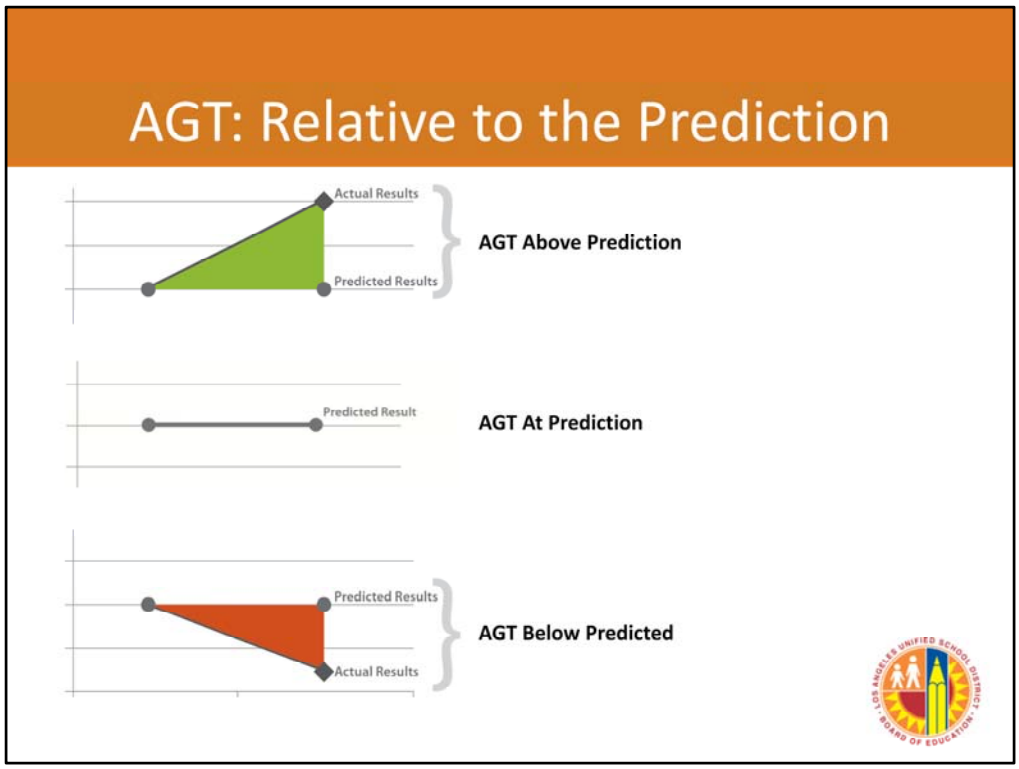
Facilitate the discussion about the strengths and limitations of each of these measures.


CHECKING
FOR UNDERSTANDING



These are the control variables that are considered in the LAUSD AGT reports.

But what does this mean in terms of an educational context? Like the Oak Tree Analogy where we controlled for environmental factors, in AGT, we control for other factors or variables like prior achievement and low-income status. This list indicates the control variables used in LAUSD. These variables help to isolate the teacher's and school's contributions to student growth. These are measureable student characteristics outside of the control of the teacher or school which are associated with meaningful differences in student outcomes. It is important to understand that the actual district data and the model itself determine the relationship to student achievement.



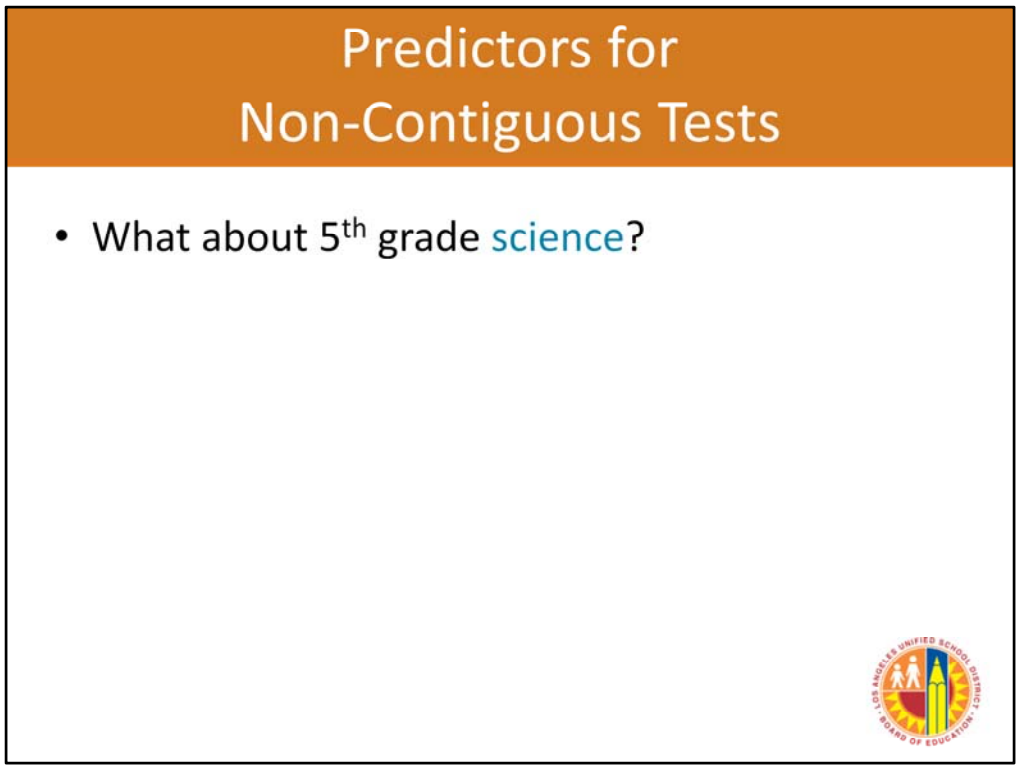
Schools and classrooms where students are improving *faster than predicted* indicate high AGT. Schools or classrooms where students are growing *slower than predicted* indicate low AGT.

What We Know about Tests and AGT

- In subjects that are contiguously tested, such as CST reading and math, it is easy to understand how:
  - A prior ELA test can be predictive of ELA
    - E.g., 3rd grade ELA predicts 4th grade ELA
  - A prior math test can be predictive of math
    - E.g., 4th grade math predicts 5th grade math

It makes sense that a reading or ELA test would be a good predictor of future reading performance and that a prior math test would be predictive of a future math test.

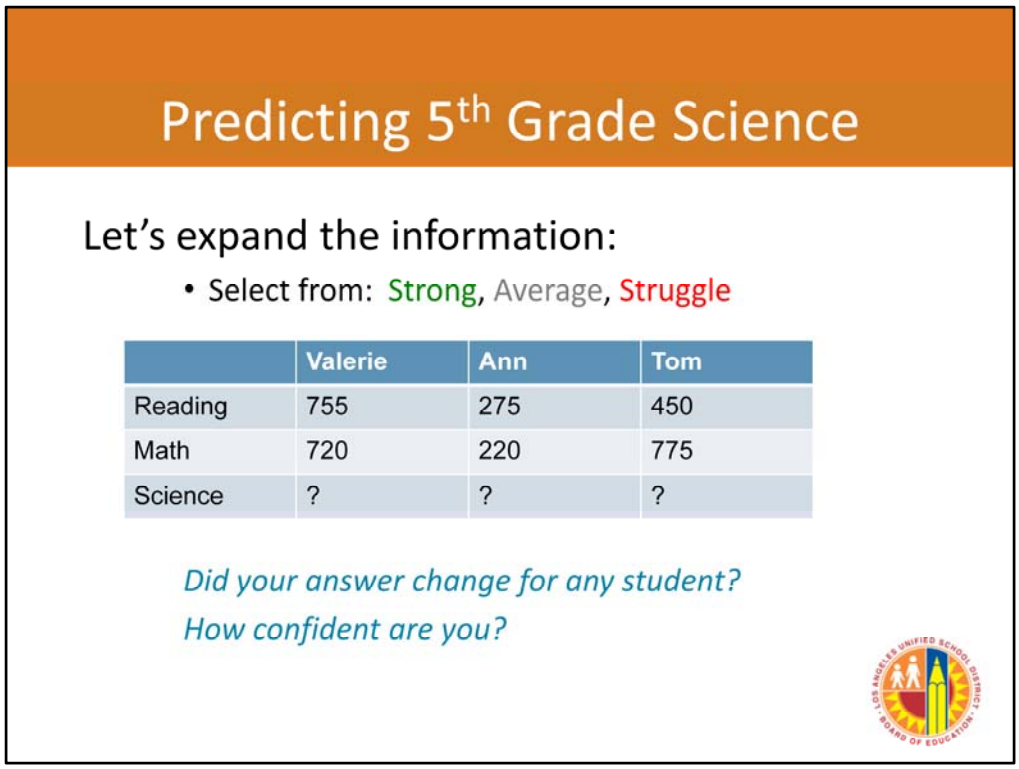
However, when tests are non-contiguously tested, it may not be as simple.



Since science is first tested in grade 5, and there are no prior science tests, what might be used to predict science performance?

Given the following information about three students, can you make a prediction of each student's performance? How certain are you in your prediction? Would more information be helpful?

Facilitate the discussion.



With information about each student's performance in reading and math, make a prediction of their likely performance in science. Did any predictions change from the previous slide?

OPTION 1 : Reinforce the concept of control variables by telling crowd Tom is an ELL student.
Does this change their prediction for Tom?

OPTIONAL 2: Pick up on the *confidence* question to reinforce the concept of a confidence interval.

Relationships of Predictor Tests

Predictor tests must have a strong relationship to the test being analyzed.

	SCI-04	SOC-04	MATH-04	READ-04	SCI-05	SOC-05	MATH-05	READ-05
SCI-04	1	0.67	0.64	0.62	**0.85**	0.68	0.64	0.58
SOC-04		1	0.70	0.70	0.56	**0.72**	0.44	0.68
MATH-04			1	0.64	0.74	0.65	0.91	0.61
READ-04				1	0.72	0.64	0.59	**0.83**
SCI-05					1	0.70	0.65	.55
SOC-05						1	0.67	0.64
MATH-05							1	0.58
READ-05								1

The correlations in this chart do not represent LAUSD, it is simply conceptual.

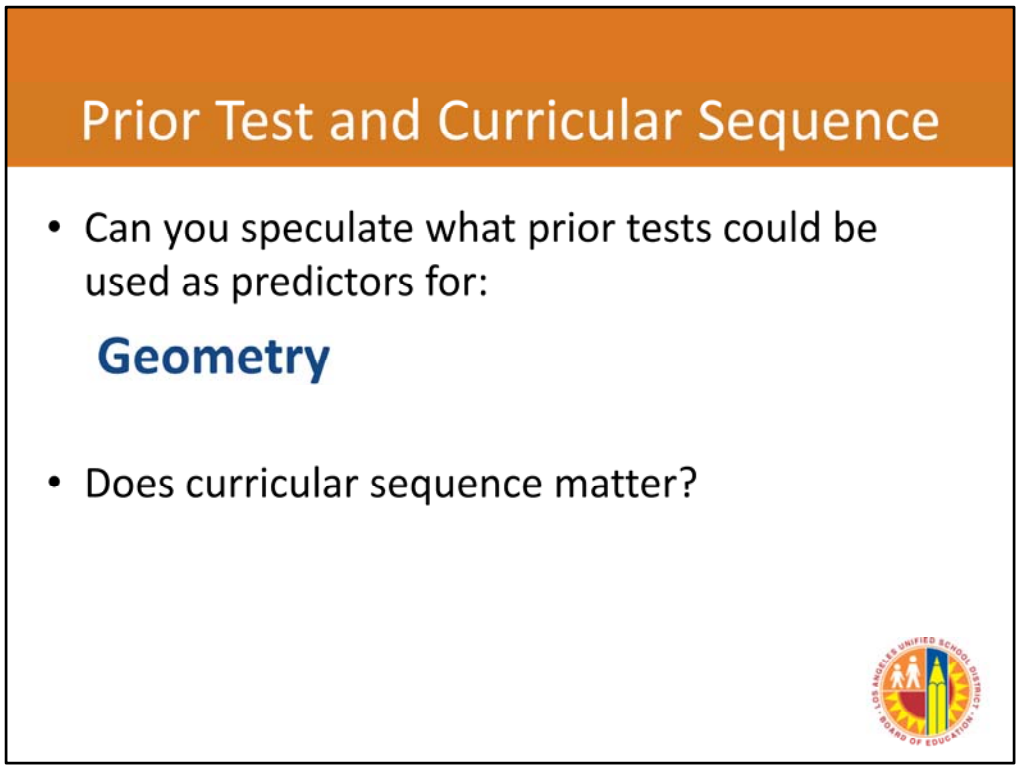
It's easy to see how a prior 4th grade science test could be predictive of 5th grade science (if it were tested in your district). The 0.85 indicates a strong relationship between those tests. Without a 4th grade science test, and using 4th grade math and reading, you can see there is a strong relationship between both of these tests and the science test. These strong relationships give us an indication that they would be good predictors for science AGT.

The relationship between 4th grade social studies and 5th grade math is weak. This would not be an ideal predictor test for 5th grade math AGT.

What About Non-Contiguously Tested Subjects in High School and other Grades?

- In LAUSD, there are several End of Course (EOC) exams for which AGT estimates will be provided.
- Students take these courses in different grades.
- Therefore, all test score information from the previous year as well as related content area from the beginning of the course curriculum sequence are considered.

Let's explore a few subjects and challenge our thinking about predictor tests.



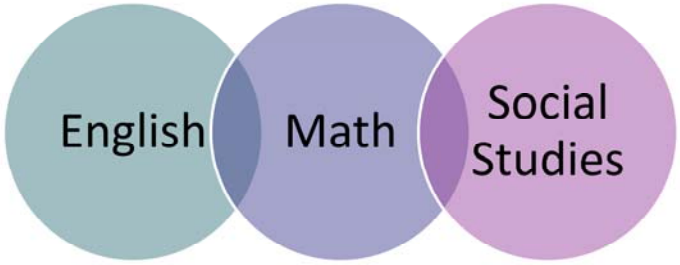
Facilitate discussion.
Let the crowd discuss options. Narrow options to Algebra, Algebra II and General Math. Crowdsource (vote).

In a midwestern urban school district, Algebra II had the strongest relationship. But Algebra II is not in the curricular sequence (i.e., most take geometry before algebra II). Discuss the difference between a prior predictor test and a "pre-test." (Pre-tests tend to presume curricular sequence.)

Prior Tests used in LAUSD

- Can you speculate what prior tests could be used as a predictors for:

Economics

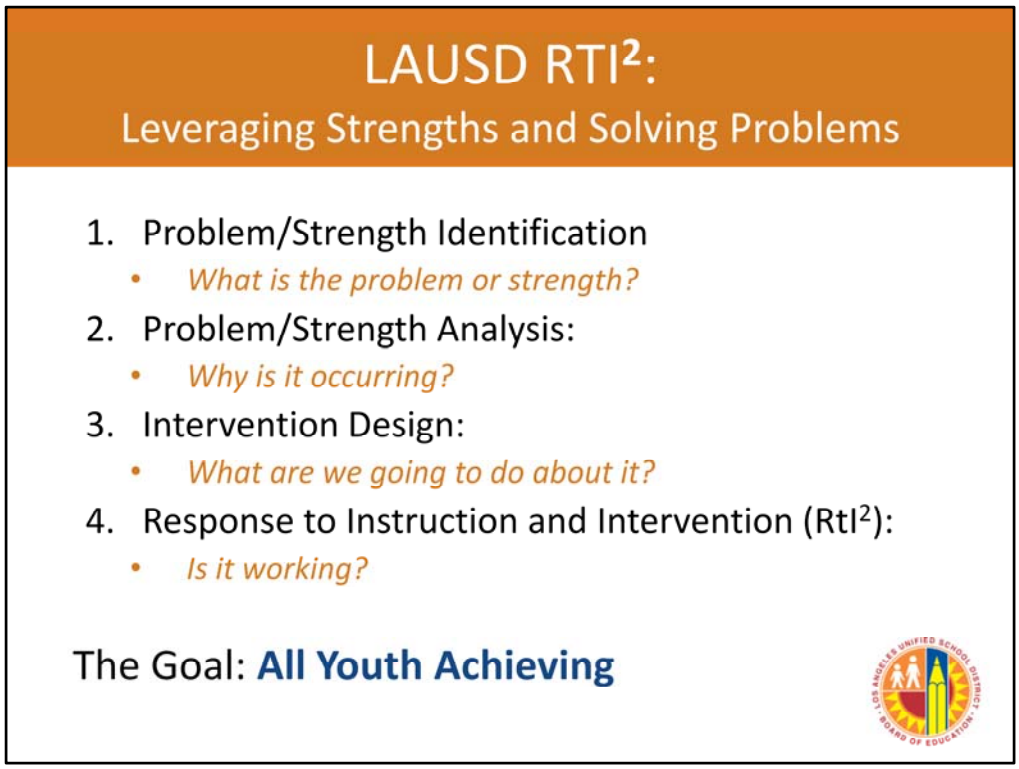


Again, testing knowledge to understand predictive tests.
Crowdsource (vote).

In a midwestern urban school district, the strongest predictor test was English.
Reinforce these may not be true for LAUSD, but this is to teach the concept.


CHECKING
FOR UNDERSTANDING

Next we will examine the contents of an AGT report and learn how to read and interpret the information.

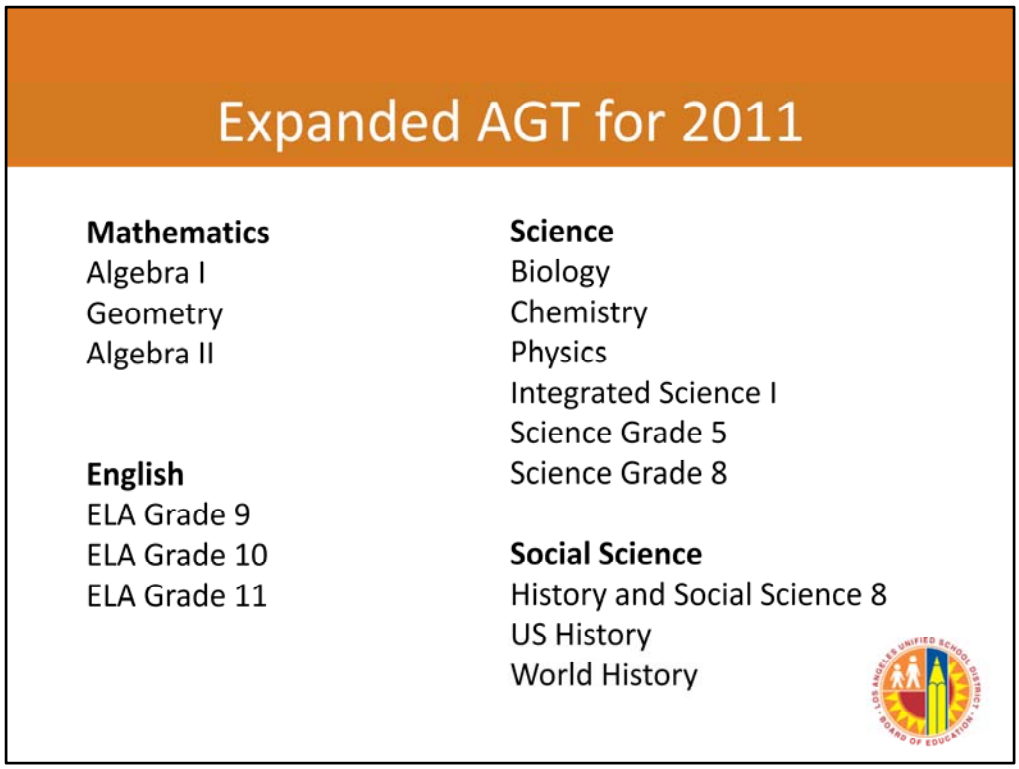


As we explore AGT, we will be asking you to interpret various signals from AGT data. It's often said that "AGT tells you what is happening, but not why."

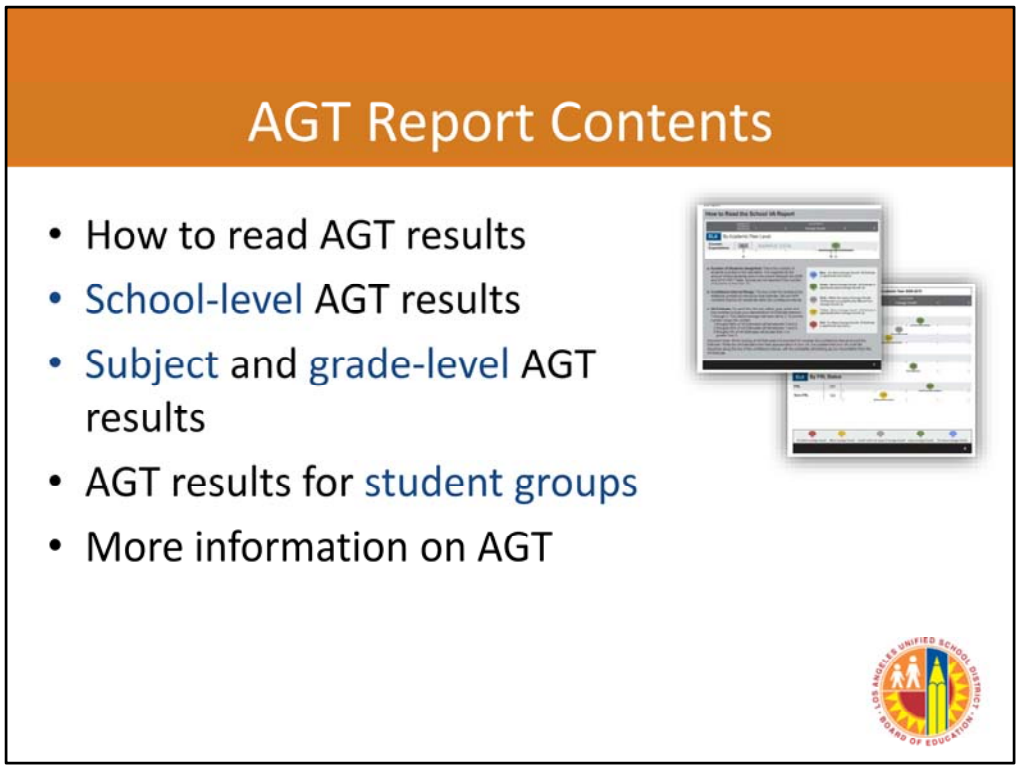
In order to understand *why*, we must use a problem-solving process such as LAUSD's response to intervention (RTI^2). This process should first focus on identifying strengths, problems and opportunities. We will explore AGT further and begin to apply the RTI process to understand how to accelerate all youth achieving.

AGT – The Story So Far

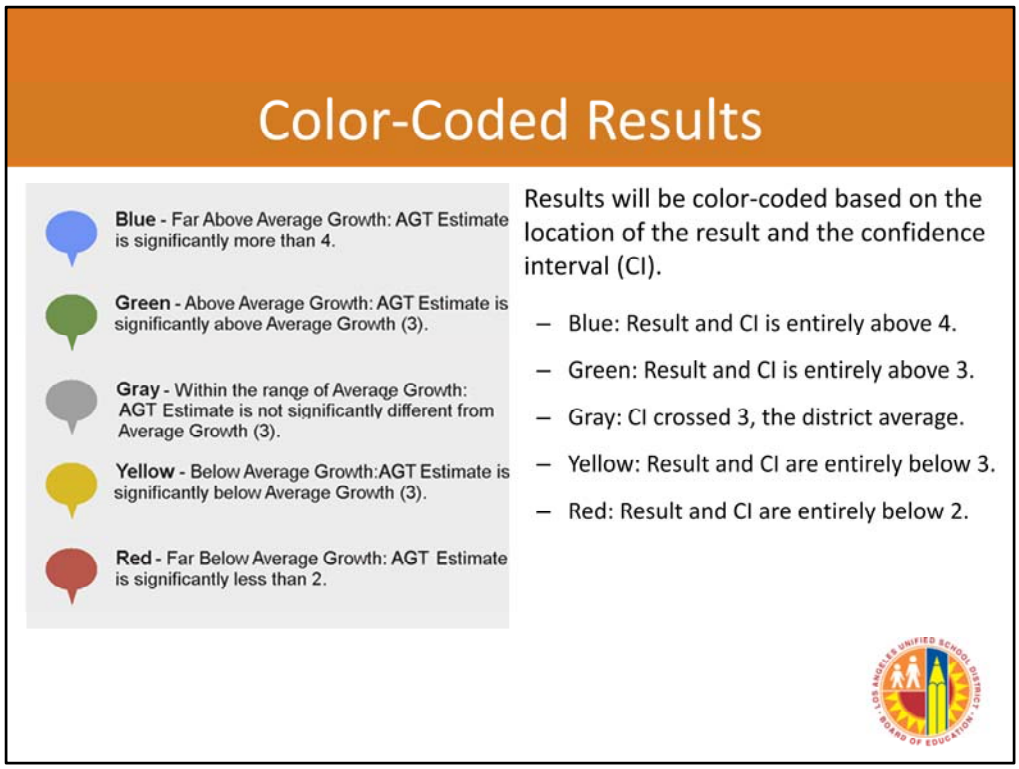
- 2009–10 AGT reports produced for schools throughout the district.
- AGT was reported for:
  - ELA in Grades 3–9
  - Math in Grades 3–7
  - Algebra/General Math in Grade 8



These additional subjects are being included for the new 2011 AGT results.

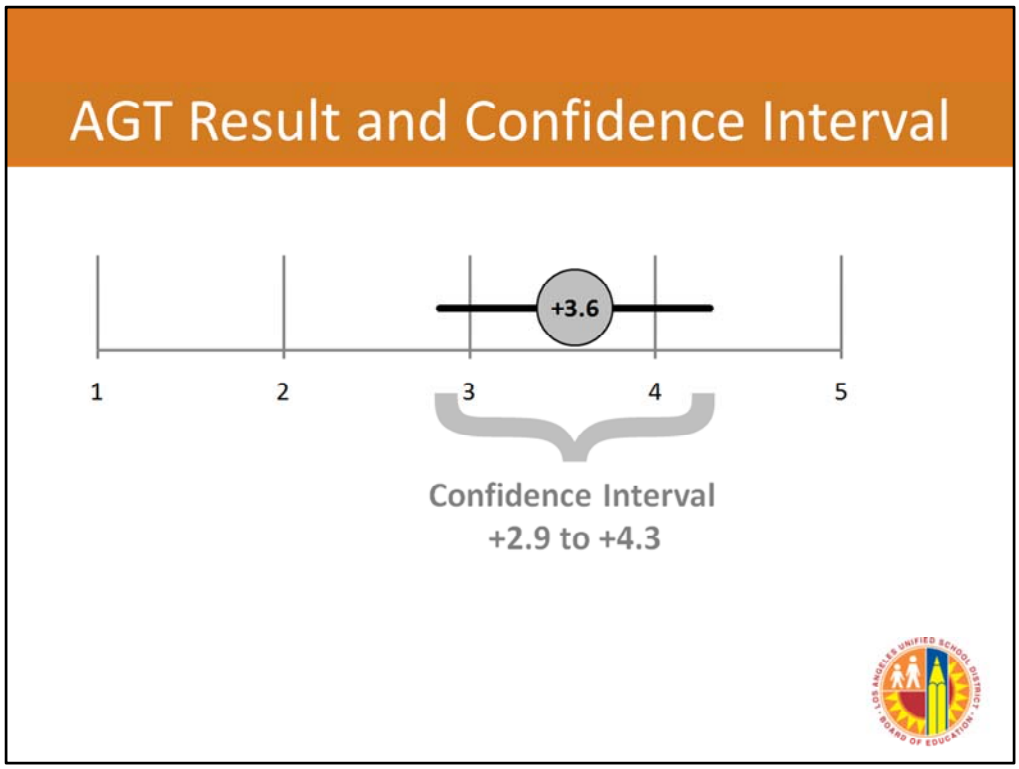


Your AGT report includes informational text that will help you understand each section. The reports provide an overall school AGT result for tested subjects used in the analysis, results for individual grade levels and subjects and specific student groupings chosen by your district. Student groupings or differential effects that often are chosen demonstrate how different groups of students are performing when compared to each other. Common groupings are Academic peer level, Students with Disabilities and Students that have Free or Reduced Lunch Status.

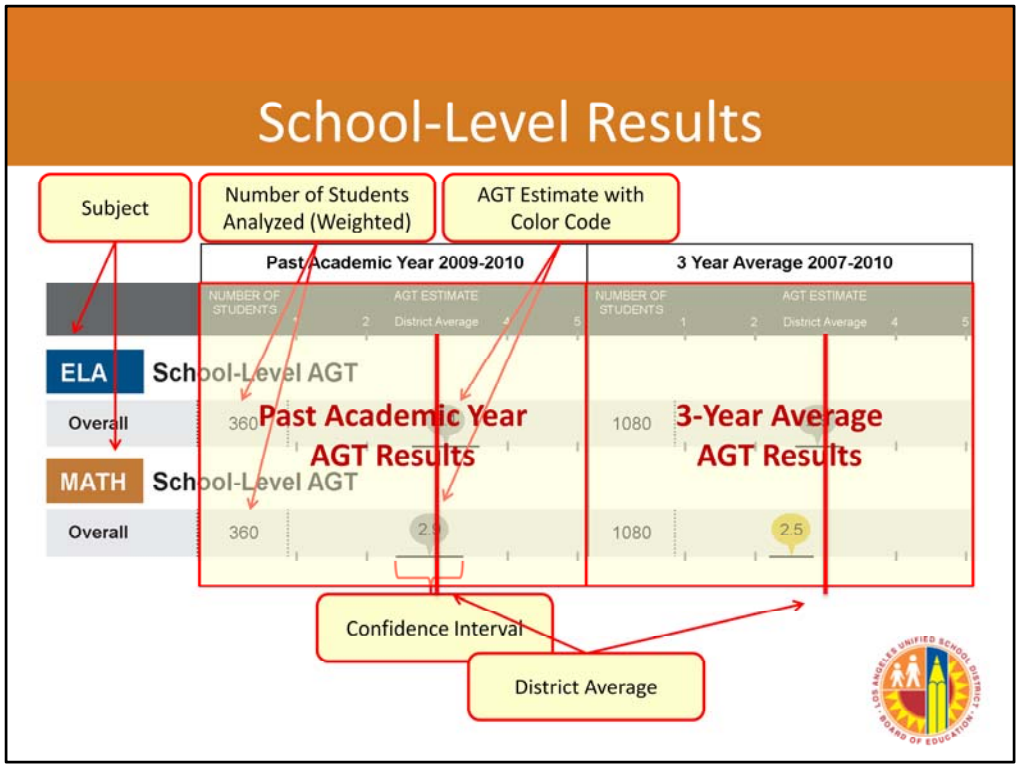


The district has chosen a five-color key to describe AGT results. These results and colors indicate whether student growth was far above, above, no different than, below or far below the district AGT average.

Pause for reading



In order to better understand the reports, we will take a few minutes for a refresher on a few technical terms from statistics to understand results and confidence interval. Each analysis produces an AGT result and a confidence interval in order to communicate the precision of each result. The true confidence interval indicates a range of where the true result lies. In this case the AGT result is 3.6. The result could be somewhere between 2.9 and 4.3. However it would be less likely to be closer to the ends of the confidence interval. The confidence interval is mostly affected by the number of students included in the analysis and by how student test scores are distributed and related.



This is a sample of an LAUSD AGT result.

In this case, we are looking the school-wide AGT result in English Language Arts for the 2009-2010 school year. Notice that results are on a scale from 1 to 5 with 3 being the District average.

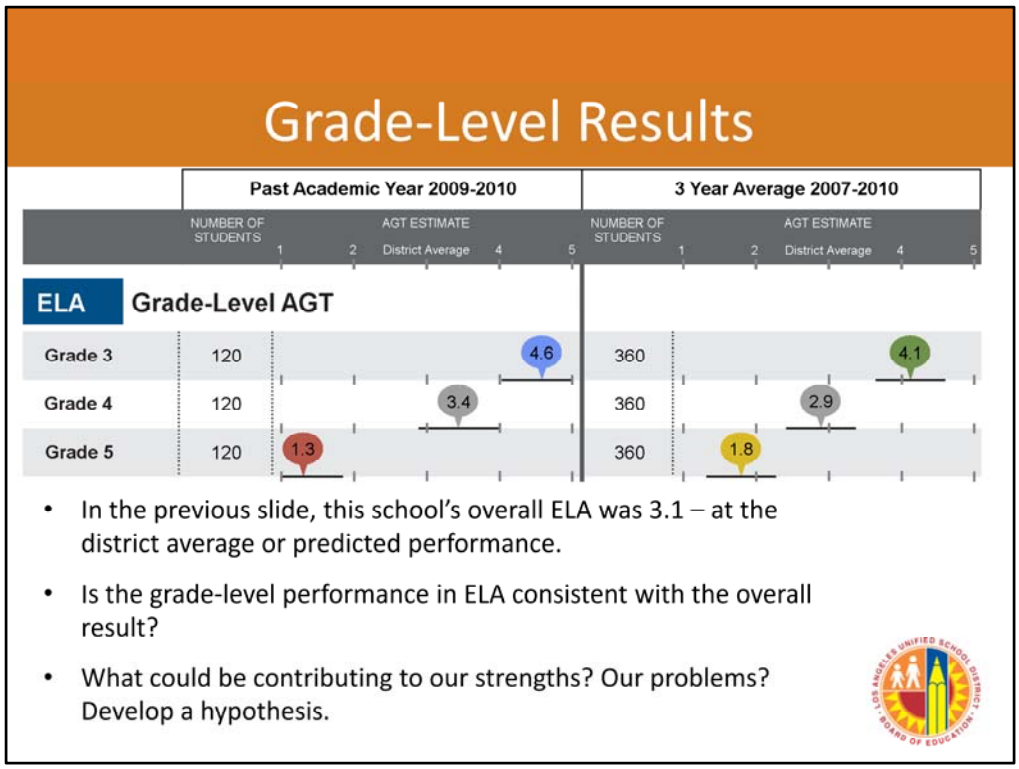
The yellow arrow is pointing to the number of students in this result

The green arrow is pointing to the result itself, which includes a point estimate of 3.1 as well as a confidence interval – the black line under the point estimate – that stretches from approximately 2.7 to 3.6.

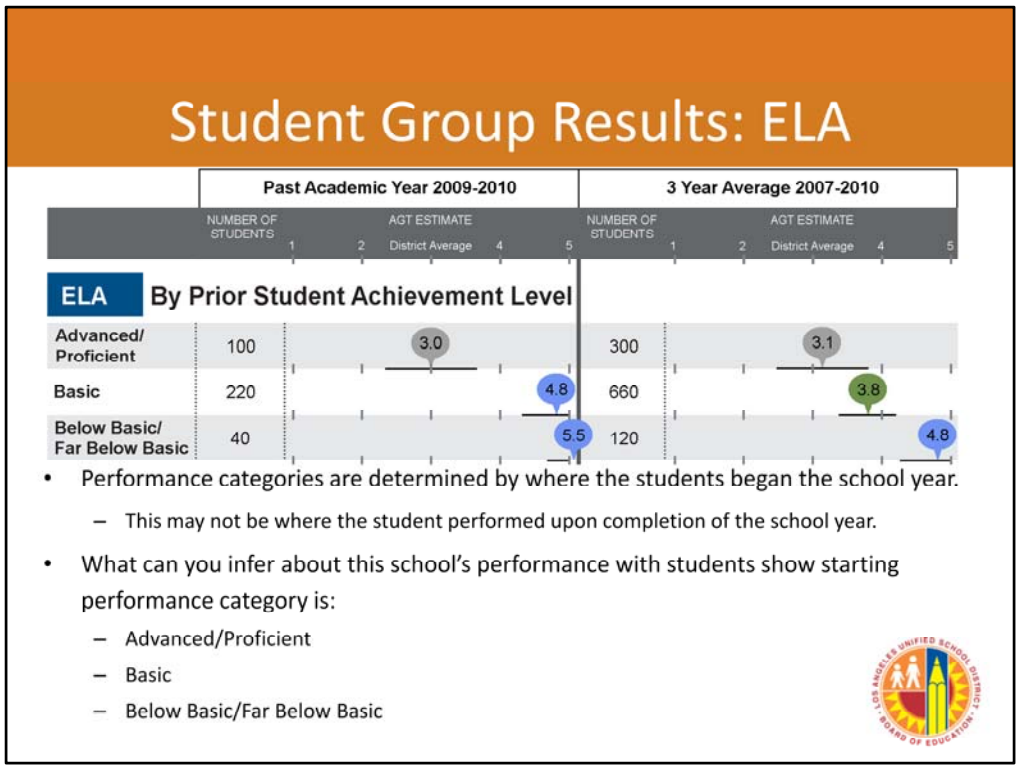
In this example, the bubble is grey because the confidence interval stretches across the district average.

3.1 and the grey bubble indicate that these students are not growing in a manner that is significantly different from the district average.

This report shows the overall AGT results. The information in this report is an aggregate of all the grades in the school included in the analysis. High School reports may also have an overall subject aggregate result that is related to “end of course” exams.



•Third grade students are growing faster than the district average.
•They are <u>far above</u> their predicted score. Notice that both the point estimate and the confidence interval are above 4, indicating a far above average AGT result.
•The third grade team has grown students at a rate that far exceeds what the typical third grade team in LAUSD has produced with similar students.



•Educators may want to compare two student groups to each other.
•It is **true** this school's performance with students whose performance category is **Advanced/Proficient** is close to the district average for all students in LAUSD who are **Advanced/Proficient**.
•It is **true** the school's performance with students whose performance category is **Basic** is far above all students in LAUSD whose performance category is **Basic**.
•It is **not necessarily** true that students in the Basic performance category grew more than students in the Advanced/Proficient

Additional Student Groups

AGT results are reported for different groups of students in LAUSD.

- Prior Student Achievement Level
- Students with Disabilities (SPED)
- Free and Reduced Lunch Status (FRL)
- English Language Learners (ELL)
- Gender
- Race

Often, there are other student groupings included in the reports. This list shows some common groupings that are chosen by districts.

In LAUSD, the following student groupings are included in the reports.

Teacher-Level Reports

- LAUSD provides teacher-level reports. You will find that they look very similar to the school reports.
- These reports can be interpreted and applied in a similar manner as the school reports.

•LAUSD will provide teachers with individual classroom-level value-added reports.
•Like the school reports, these reports will provide powerful information for teacher reflection and improvement in student learning.
•They look very similar to the school reports and can be read and interpreted in the same way.

Pause and Reflect

1. How might you use the information that AGT provides to leverage strengths and address challenges?
2. How might you use information from AGT reports to have conversations with your:
   - Leadership team?
   - Teachers?
   - Parents?
   - Students?


CHECKING
FOR UNDERSTANDING

CONNECTING THE DOTS: INTEGRATION OF AGT

Improvement: Uncover, Discover, Recover

AGT estimates can help identify strengths, challenges and opportunities for improvement:

- District-level results can be influenced from a variety of central services such as
  - Curriculum and instruction, gifted and talented, special education and more.
- School-level results can be indicative of
  - Instructional leadership, teacher-team collaboration, hiring decisions and more.
- Teacher and classroom results can identify needs for
  - Differentiated instruction or other research-based practices leading to improved student learning.

LAUSD Context: We improve instruction

Shared Vision is about leading people around a focus on student learning, that all kids can learn, and we are here to ensure that.

Supervision of instruction involves ongoing, coherent guidance for implementation and continuous improvement of teaching and learning. It facilitates the development of school wide commitment to multiple measures of student learning to guide teaching and learning.

Investing in teacher quality involves an ongoing commitment by school leaders to work collaboratively towards the development of highly effective teachers who are able to consistently improve student outcomes and to assume leadership roles through differentiated professional growth opportunities and support.

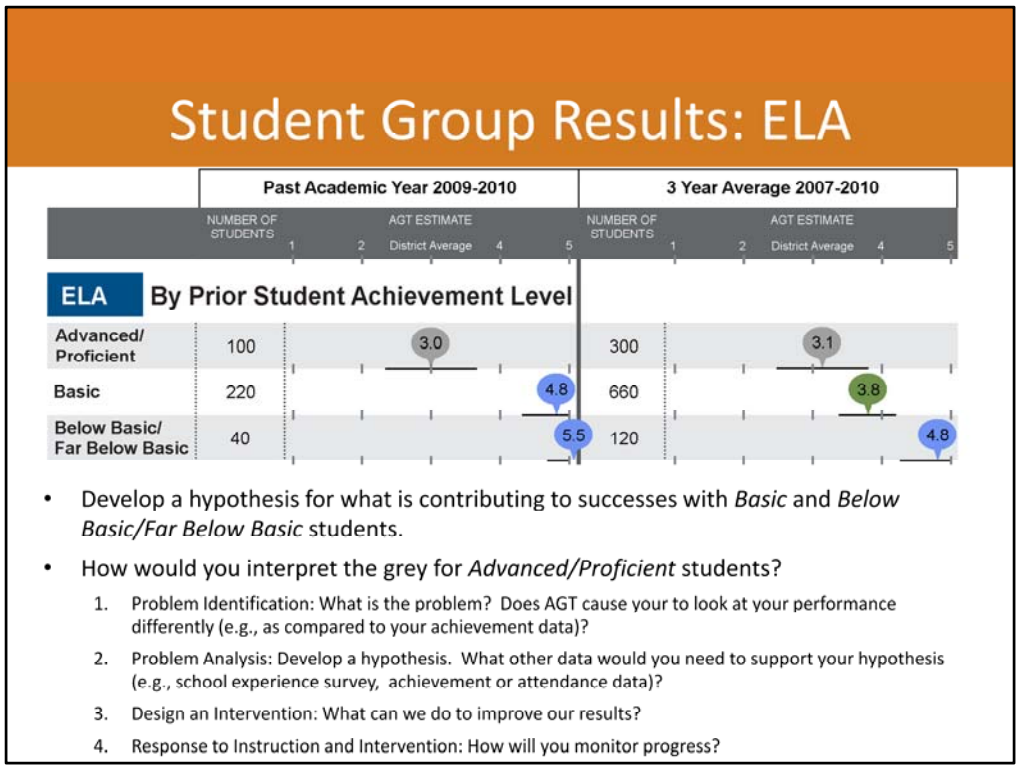
Teaching & Learning Framework

(Working Draft)

1. Planning and Preparation
   - Designing coherent instruction (i.e., standards-based learning activities)
   - Designing student assessment (i.e., analysis and use of assessment data for planning instruction)
2. Classroom Environment
   - Establishing a culture for learning
3. Instruction
   - Using questioning & discussion techniques
   - Engaging students in learning (i.e., purposeful grouping of students; standards-based projects and activities)
   - Using assessment in instruction (i.e., monitoring of student learning)
4. Additional Professional Responsibilities
5. Professional Growth
   - Reflecting on practice (to inform and improve)

Diving Deeper: Integrating AGT

- In the next activity, we are going to re-visit a few student groups and employ:
  - RTI Strength-Leveraging/Problem-Solving Process
  - Make possible connections to the:
    - School Leadership Framework *(Draft)*
    - Teaching and Learning Framework *(Draft)*



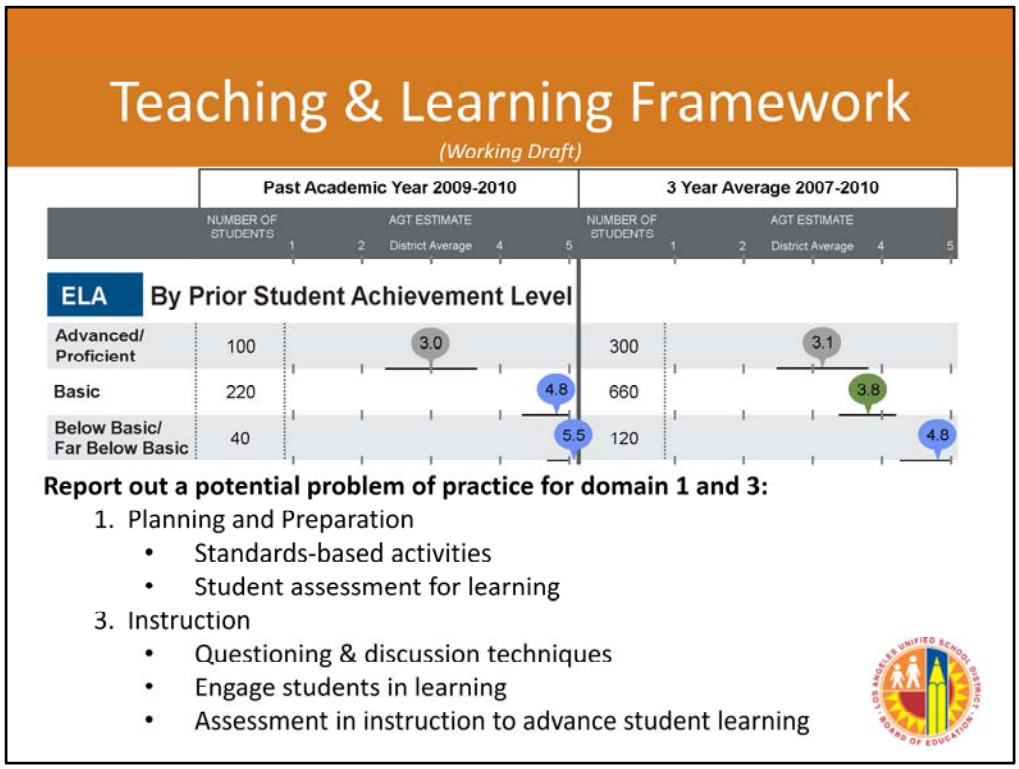
Let's apply the 4-step RTI process here.

If audience struggles with "they're doing great," ask a provocative question. How much student learning is enough? Is there an opportunity?

In this case, we are looking first at strengths with Basic and Below Basic/Far Below Basic students. Compared to historical performance, AGT appears to be even higher in our past academic year.

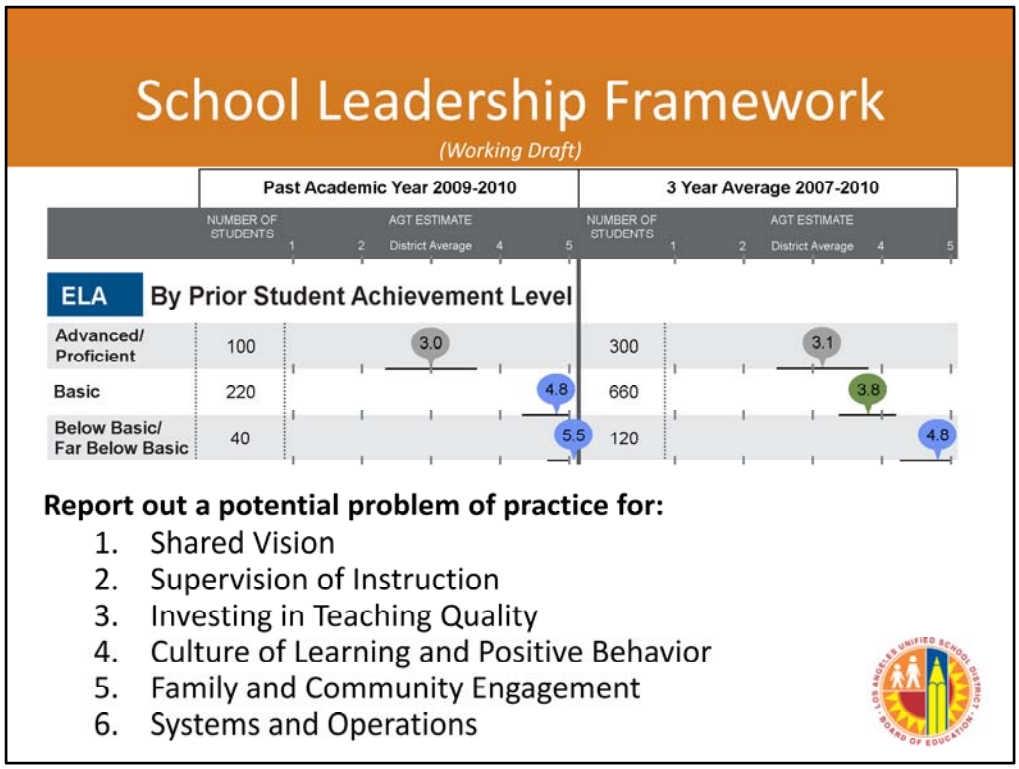
The results with GRAY 3.0 for Advanced/Proficient students indicate our students are responding well, but also signals an opportunity to improve their performance. How?

We will next engage the crowd on the frameworks to improve instruction for all youth.



Engage the crowd on each domain of the Teaching and Learning Framework until one idea for each:

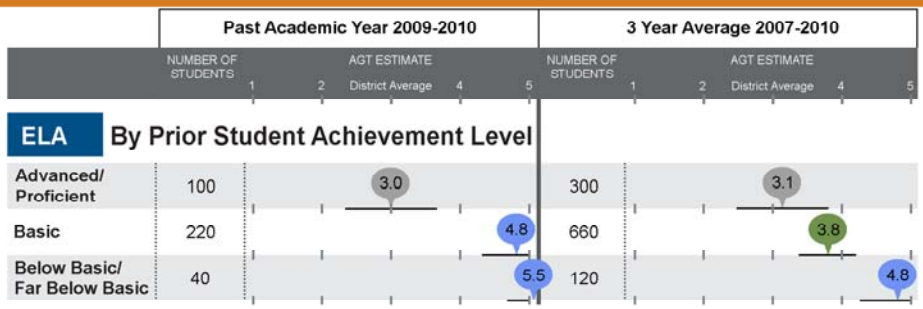
1. Planning and Preparation
2. Classroom Environment
3. Instruction
4. Additional Professional Responsibilities
5. Professional Growth



Engage the crowd on each domain of the School Leadership Framework until one idea for each:

1. Shared Vision
2. Supervision of Instruction
3. Investing in Teaching Quality
4. Culture of Learning and Positive Behavior
5. Family and Community Engagement
6. Systems and Operations

Rigorous Academic Content

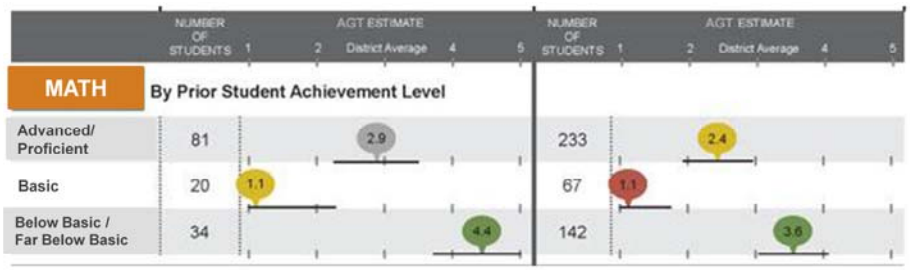


Report out a potential problem for Rigorous Academic Content.

- Are lesson/unit structures logically designed to allow for different pathways according to diverse student needs? *(T&L Standard 1d)*
- Is the curriculum relevant to students' lives?
- Are learning targets written in student-friendly language?
- Do all students have access to rigorous curriculum?


CHECKING
FOR UNDERSTANDING

Student Group Results: Math

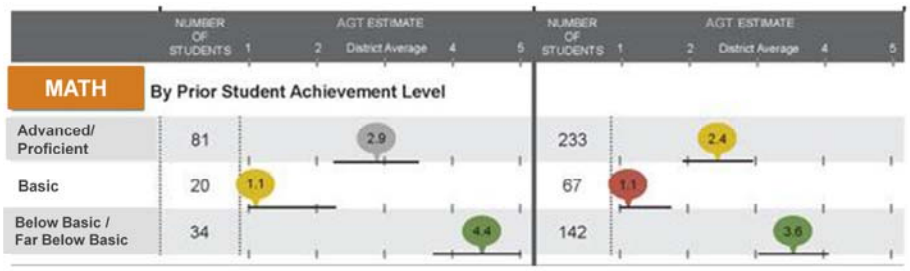


Looking at our AGT results for Math with students grouped by prior achievement level, how would you **respond to the data** using the RTI framework?

1. Problem Identification: What is the problem? Does AGT cause your to look at your performance differently (e.g., as compared to your achievement data)?
2. Problem Analysis: Develop a hypothesis. What other data would you need to support your hypothesis (e.g., school experience survey, achievement or attendance data)?
3. Design an Intervention: What can we do to improve our results?
4. Response to Instruction and Intervention: How will you monitor progress?

Teaching & Learning Framework

(Working Draft)



Report out a potential problem of practice for domain 1 and 3:

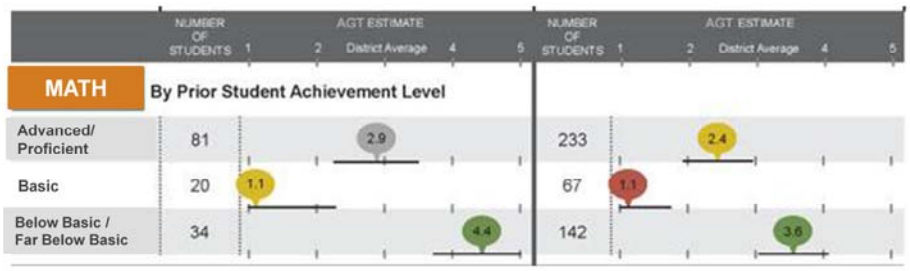
1. Planning and Preparation
   - Standards-based activities
   - Student assessment for learning
3. Instruction
   - Questioning & discussion techniques
   - Engage students in learning
   - Assessment in instruction to advance student learning

Engage the crowd on each domain of the Teaching and Learning Framework until one idea for each:

1. Planning and Preparation
2. Classroom Environment
3. Instruction
4. Additional Professional Responsibilities
5. Professional Growth

School Leadership Framework

(Working Draft)



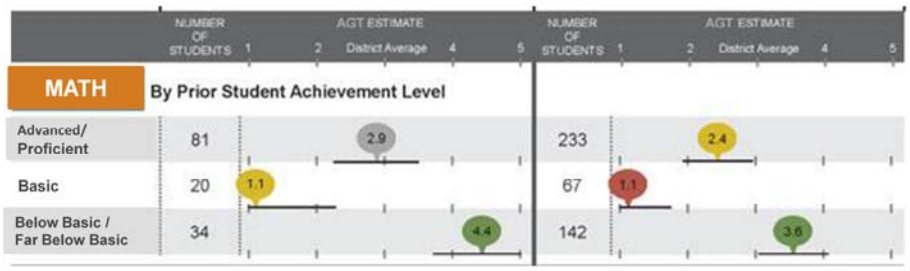
Report out a potential problem of practice for:

1. Shared Vision
2. Supervision of Instruction
3. Investing in Teaching Quality
4. Culture of Learning and Positive Behavior
5. Family and Community Engagement
6. Systems and Operations

Engage the crowd on each domain of the School Leadership Framework until one idea for each:

1. Vision
2. Supervision of Instruction
3. Investing in Teaching Quality
4. Culture of Learning and Positive Behavior
5. Family Community Engagement
6. Systems and Operations

Rigorous Academic Content



Report out a potential problem for Rigorous Academic Content.

- Are lesson/unit structures logically designed to allow for different pathways according to diverse student needs? *(T&L Standard 1d)*
- Is the curriculum relevant to students' lives?
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CHECKING
FOR UNDERSTANDING

The Making Meaning Guide

- This guide will help you examine your school AGT report from an aggregate to a disaggregate level.
- By working through this guide you will begin to diagnose some important patterns and trends in terms of strengths, opportunities and challenges.
- You will also be prompted through an analysis of strengths and problems and goal-setting process.

The Making Meaning Guide

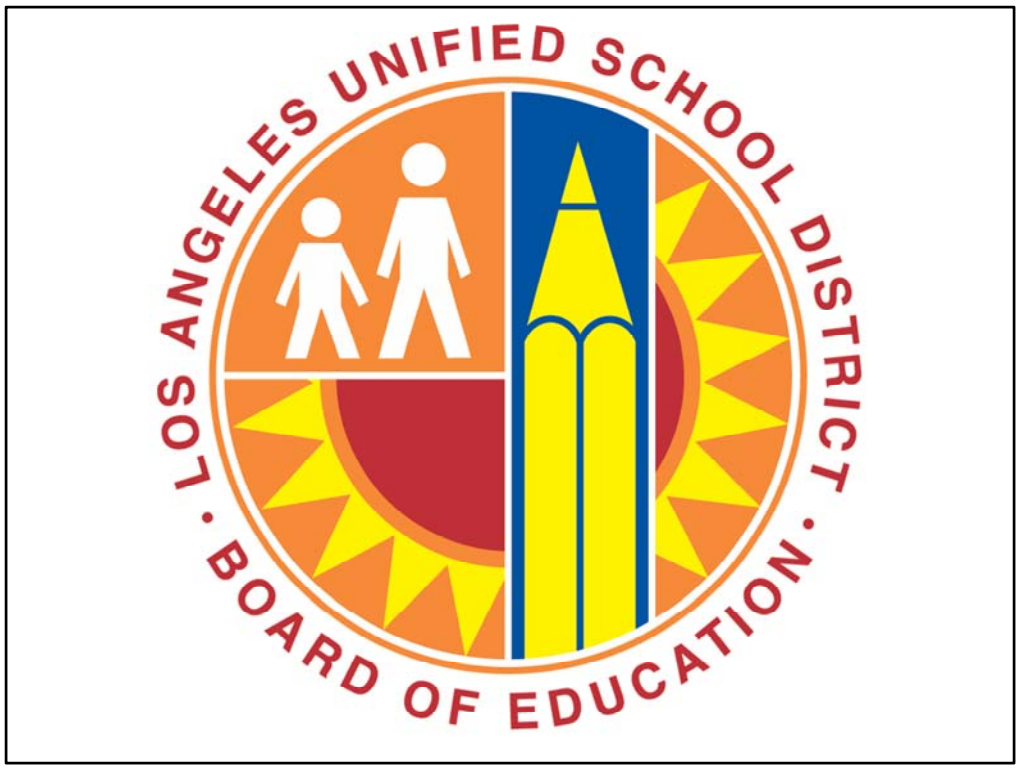
Your *Making Meaning* guide will take you through the following reports for a comprehensive analysis of your results:

- School-Level Results
- Grade or Subject-Level Results
- School-Level Results with Specific Groups of Students

LET'S DO THIS!

Exit Ticket

- What are **four** things or concepts that you **learned** today?
- What are **three** things or concepts you are really excited about and will **share with your colleagues**?
- What are two concepts you will use to **improve your practice**?
- What **one** question do you still have?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