

Root Cause Analysis

How adaptive leaders use root cause analysis to collaboratively solve student achievement needs

A REL Mid-Atlantic Webinar

April 30, 2014, at 4:00 PM EDT



Mid-Atlantic: Delaware, Maryland,
New Jersey, Pennsylvania, Washington, D.C.

- Welcome
- Introduction of the presenter
- Presentation
- Q&A
- Concluding remarks
- Adjourn



Roni Silverstein



- Principal, Fallsmead Elementary School, Montgomery County Public Schools, Rockville, MD
- Focus on: adaptive leadership development, root cause analysis, equity studies leading to high expectations and achievement for all students, collaborative problem solving, and social emotional learning for students

Also joining us for the discussion periods today is Geoff Hewitt, principal of Lambertville Public School, in New Jersey



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Roni Silverstein

Principal

Fallsmead Elementary School

Montgomery County Public Schools

Rockville, MD



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Poll: About the Audience

Who is in the
audience today?

- Teacher
- School Administrator
- District Administrator
- Researcher
- Other



Poll: What Happens in Your School?

What is the *process* used in your school to develop the School Improvement Plan?

- Administration writes the plan
- Leadership team writes the plan
- We rewrite the current plan using summative data
- One teacher is in charge of updating the plan
- Other

Why is root cause analysis a key to effective instructional leadership?

- Leadership is key to school improvement.
- School improvement is an adaptive challenge.
- All improvement involves change and new learning.
- Teachers are instructional decision-makers.
- Collaboration is powerful and essential for sustainability.
- Data is a tool, not an end.
- Identifying root causes is crucial to making informed decisions.

Methods for Conducting Root Cause Analysis

- The “Drilling Down” Process
- The Five Why’s
- The Case in Point Protocol
- ORID

Technical vs. Adaptive Challenges

- An adaptive challenge is a particular kind of problem solving—where the gap cannot be closed by the application of current know-how or routine behavior.

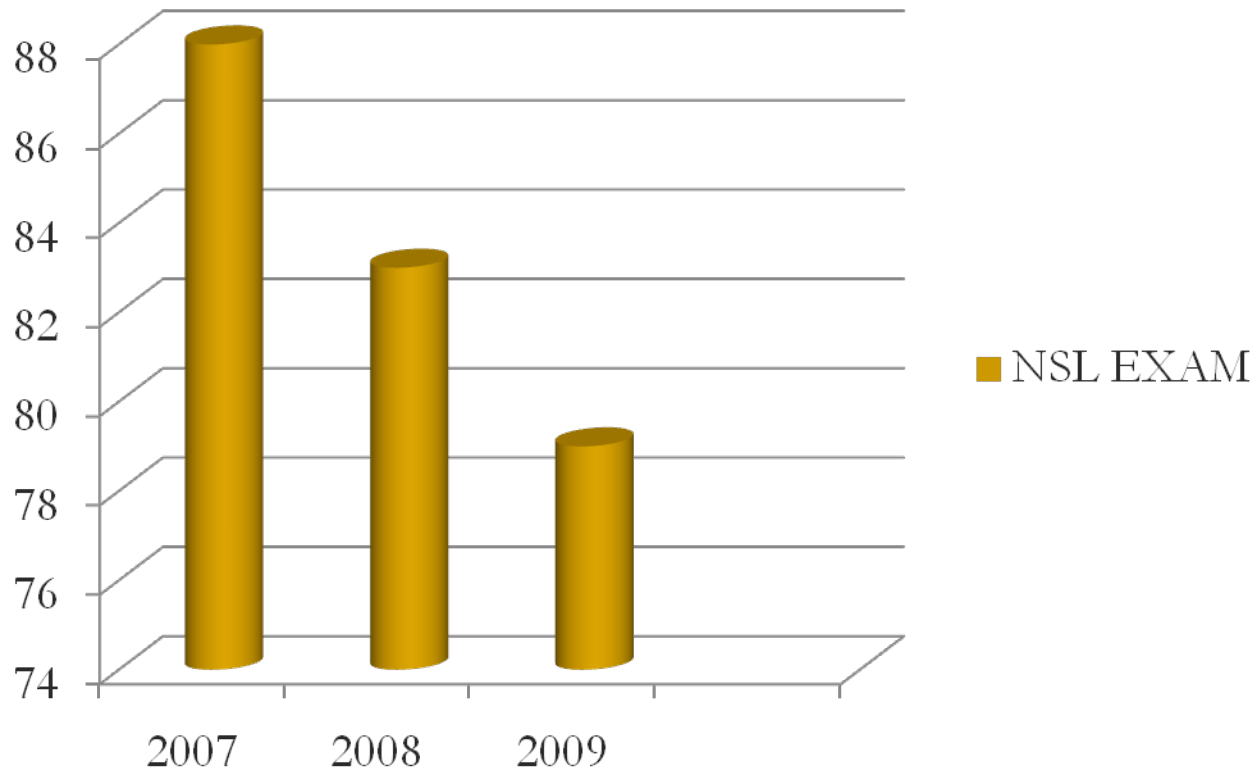


Kind of Work	Problem Definition	Solution Definition	Locus of Work
Technical	Clear	Clear	Authority
Technical & Adaptive	Clear	Requires Learning	Authority & Stakeholders
Adaptive	Requires Learning	Requires Learning	Stakeholders

- Often staff wants a leader to “fix” a problem quickly for them.
- The key to identifying whether this student need is an adaptive challenge is whether there is current know how or if new learning, beliefs and skills are needed.
- The people who are closest to the problem must be a part of the solution if change is to occur.
- When people are faced with challenges that effect their work and their beliefs, the leader must create a safe environment free from blame so that those involved will be able to look at the problem with open minds.
- Ronald A. Heifitz calls a leader who can do this an Adaptive Leader. Finding root causes and making change takes time and collaboration.

Treating adaptive challenges as if they were technical problems

The NSL Problem



What are factors that teachers might say impacted student achievement?

Potential Causes

- Student population has changed
- Staff turnover
- Class size
- Students have not mastered the English language
- Student attendance
- Students are not learning the curriculum
- Lack of parental support
- **Students are not studying enough for the test**
- Students are not doing homework

**NSL HSA scores have declined over
the past 3 years...**

WHY?



Why are the test scores declining?

Students aren't studying enough for the test.



Why aren't students studying enough for the test?

Review materials were inadequate.



Why are the review materials inadequate?

First semester content is underemphasized.

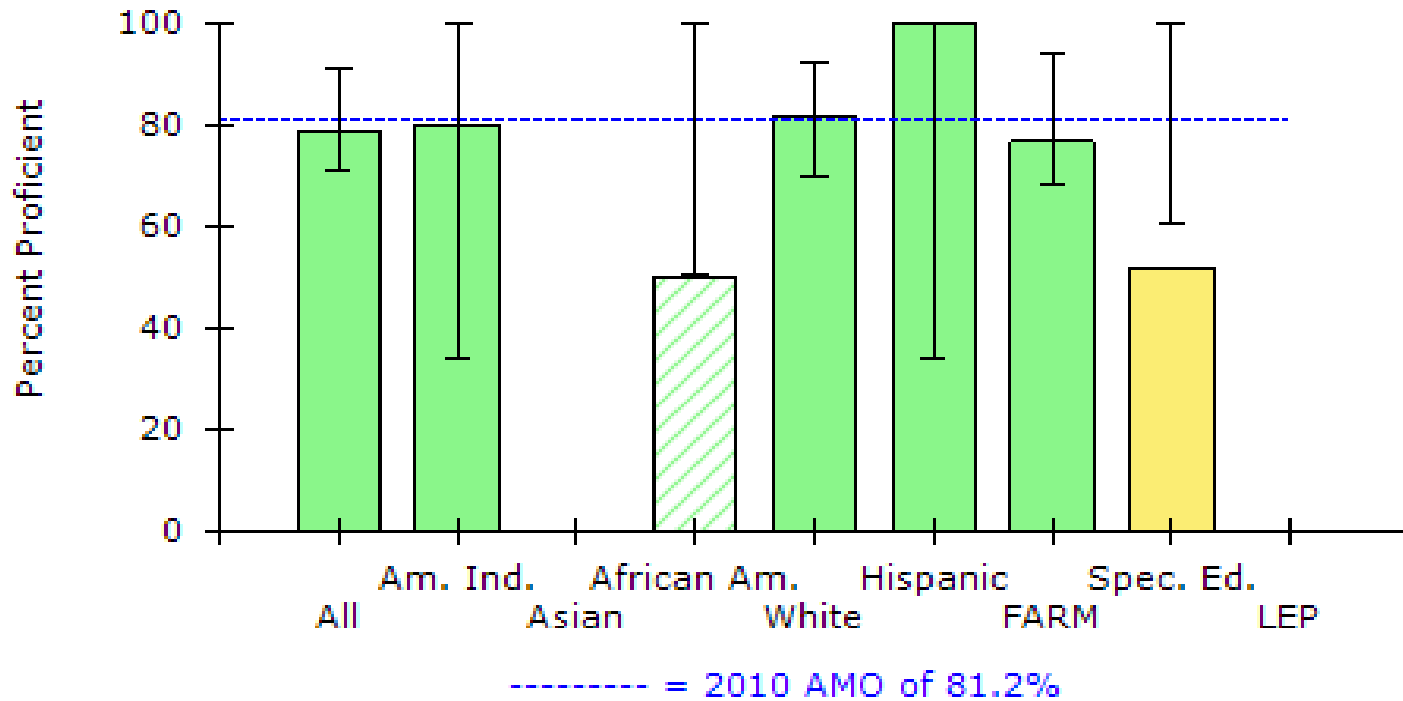


Why is the content underemphasized?

Second semester teachers are responsible for the review.

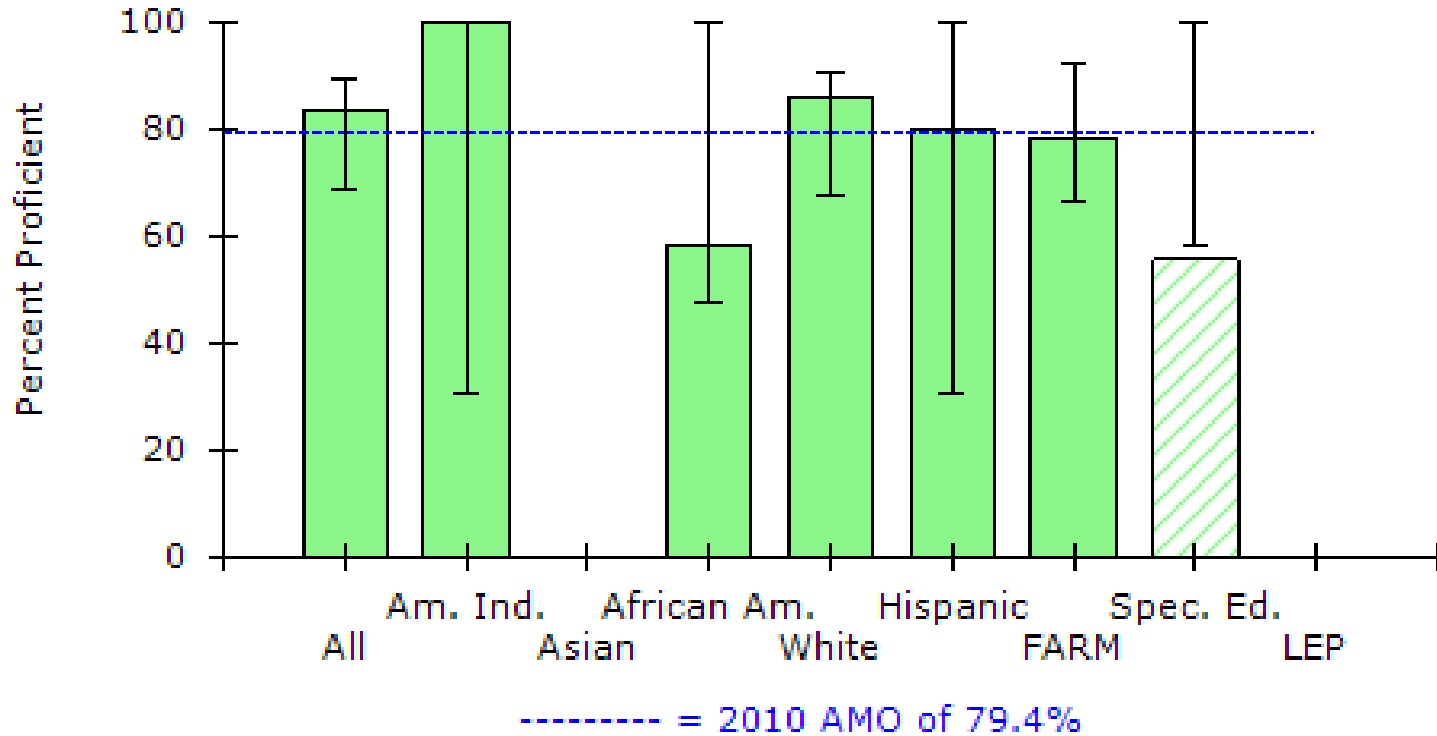
Orange Grove Elementary (1)

2010 AYP Reading Proficiency



Orange Grove Elementary (2)

2010 AYP Mathematics Proficiency



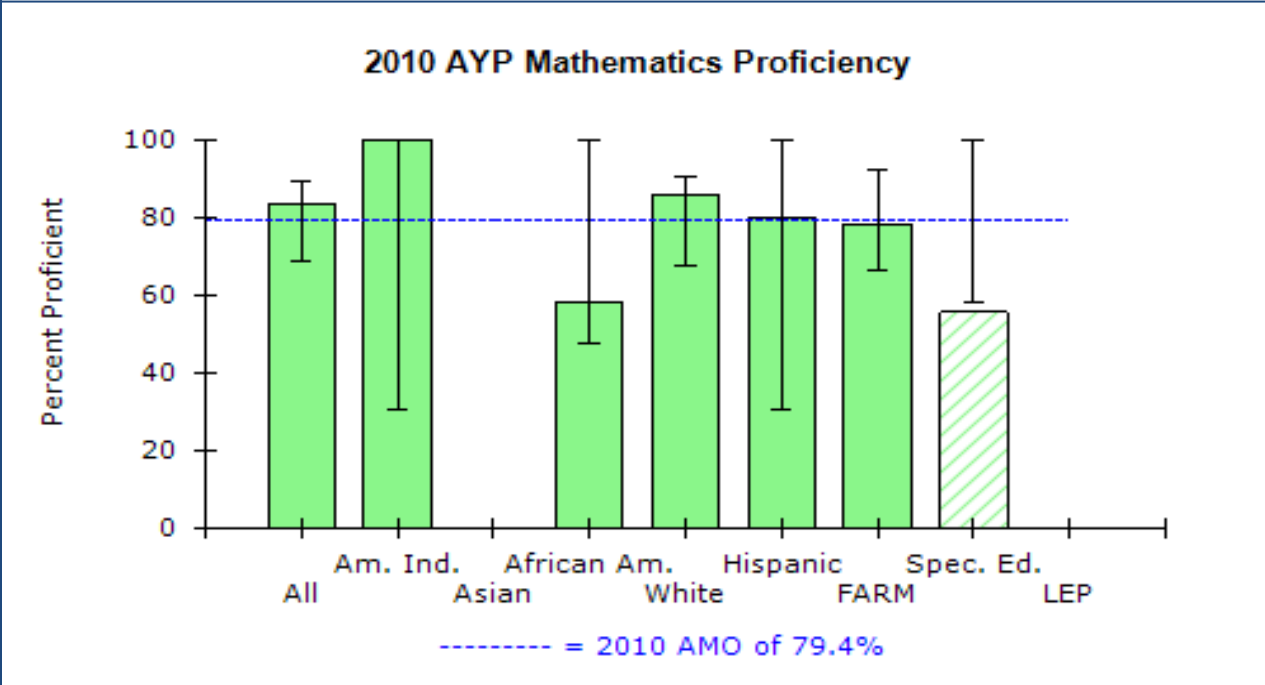
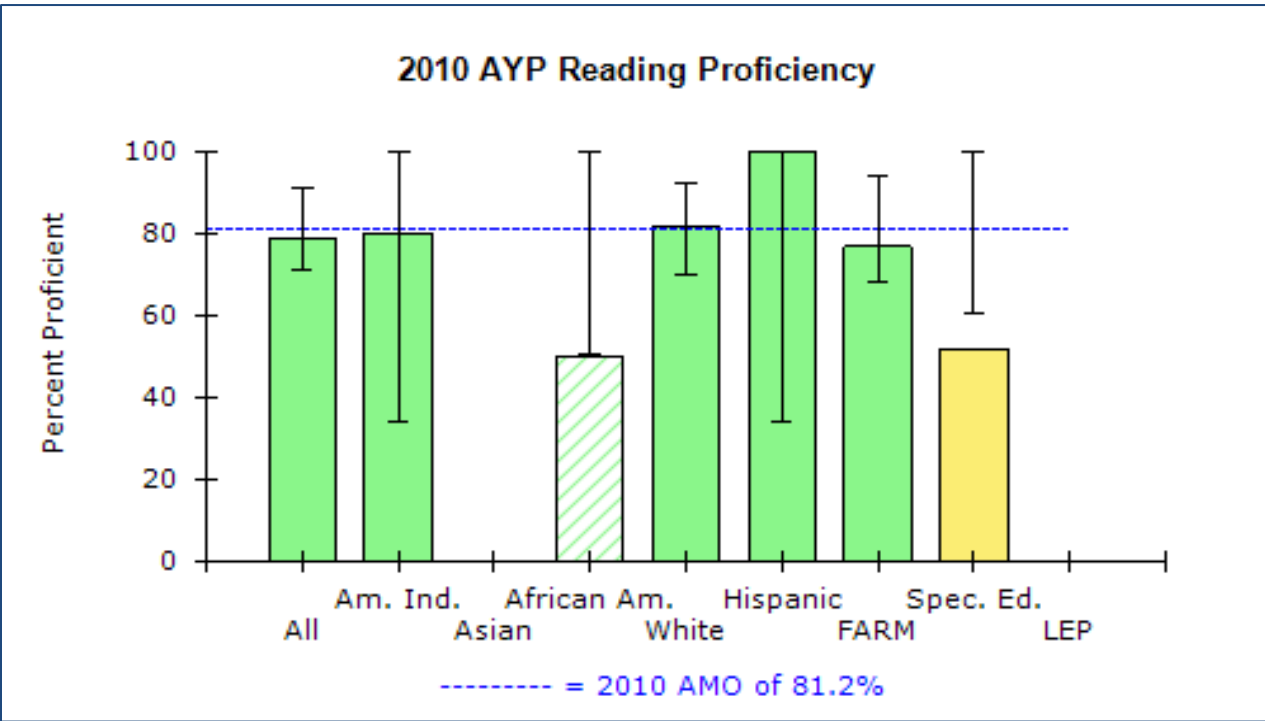
Audience Participation: What Do These Data Communicate?

What do these data seem to tell us?

What do these data not tell us?

What else would we need to know?

Can a student achievement action plan be devised from just these data?



Facilitating Equitable Practices

Adaptive leadership and the drilling down process create a climate of safety and respect so that participants are willing to share what they truly think.

- Emphasizes growth, not guilt.
- Encourages reflective talk among staff, a platform for explicit discussions about disparity of race/achievement.
- Allows staff to share their struggles and to have a nondefensive self-examination of practice.
- Encourages stories about success for all.
- Helps staff to see the impact of current practices and to believe they can make a difference.



- The most basic, underlying, specific reason for the presence of an effect or result.
- Root cause analysis is the relentless questioning of the status quo — where staff can seek new teaching methods and test their theories in a culture of respect and safety.



The “Drilling Down” Process

1. Start with important summative results and identify significant student achievement needs.
2. Form a team to ask questions about what more you want to know.
3. Collect data from multiple sources to answer the questions.
4. Discuss the data to determine findings.
5. Decide if the findings are root causes.
6. Create the team’s plan based on the root causes.

would staff generate to identify a critical student achievement need at Orange Grove?



Questions Staff Might Ask about the Student Achievement Need?

- Do the students receive their accommodations?
- Do they understand the content?
- Is their reading ability affecting their ability to succeed in math?
- Do their parents help with homework?
- What interventions do they receive?
- Are students receiving on-grade-level instruction?

How Do We Determine the Answers to Our Questions?

- Deploy staff
- Create “*Lookfors*”
- Reconvene
- Analyze findings using an Interrelationship Diagram

Data are observations or facts which, when collected, organized, and evaluated, become information or knowledge.

Data are information that is organized for analysis and decision-making.

Australian Bureau of Statistics, 2000

Using Data to Improve Student Achievement

Why is it important to examine data collaboratively?

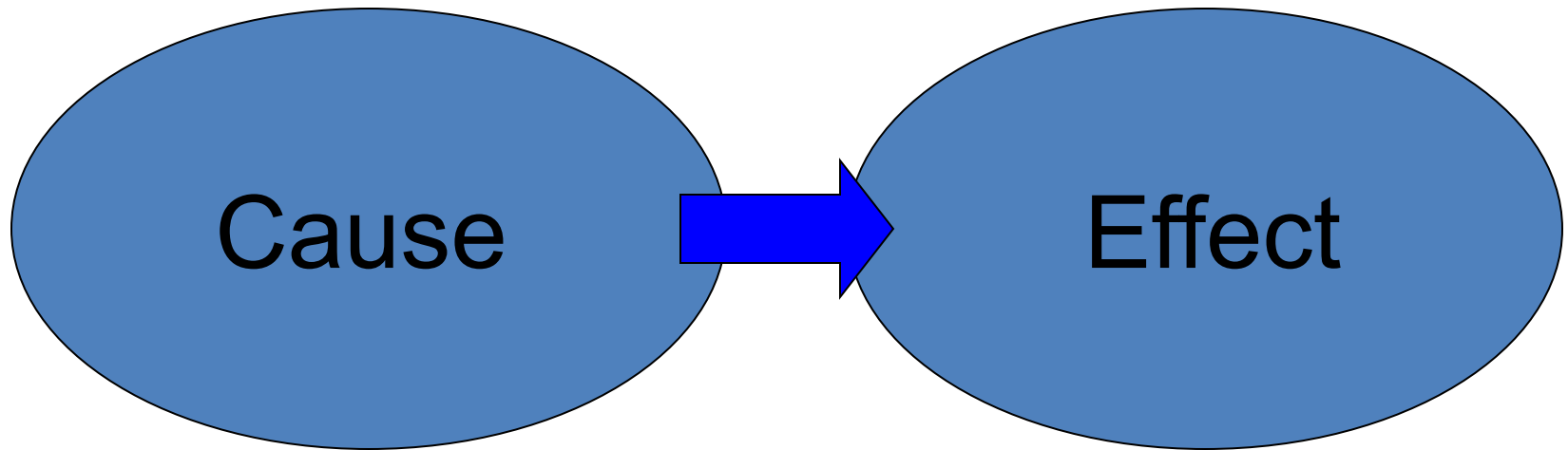
- Reduces “hunches” and replaces the bandwagon approach with a cause and effect process
- Aligns analysis with desired results
- Can identify root causes
- Directs the allocation of resources
- Monitors progress
- Builds professional learning communities

So, in a nutshell...

- These data are insufficient.
- These data do not indicate a **root cause**.
- One should not use one single source of data to develop an action plan.
- Do not guess at causes.

What Is a Root Cause?

The most basic, underlying, specific reason for the presence of an effect or result.



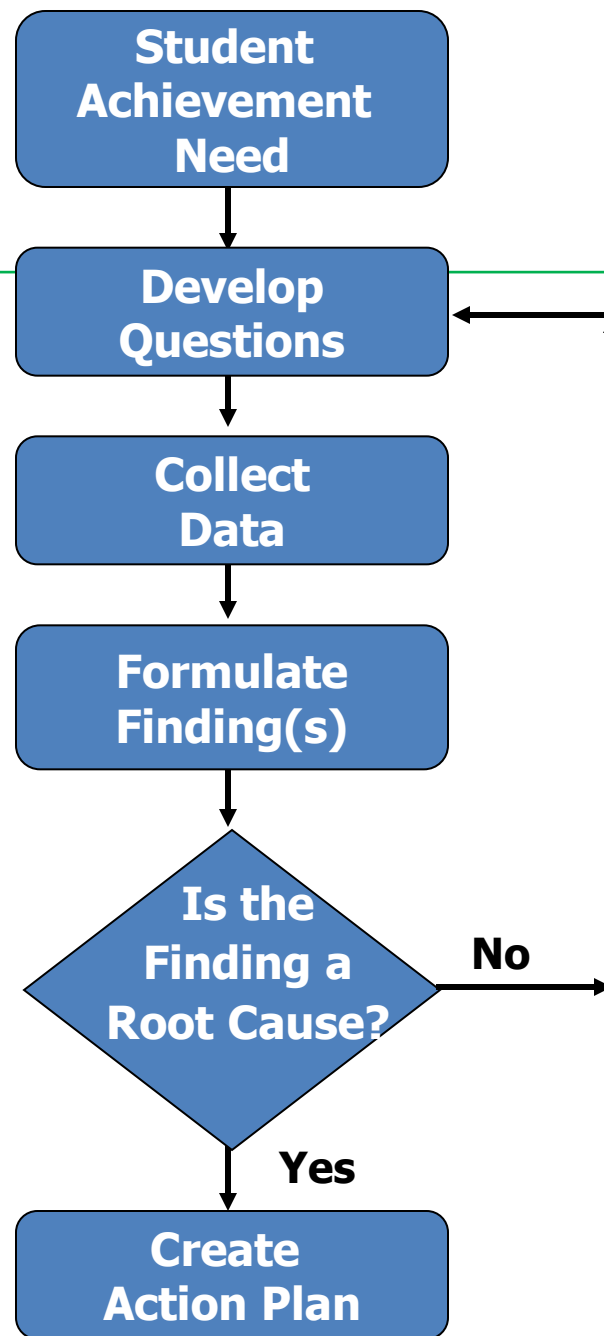
- Causes determine “effects.”
- To change “effects/results,” a change in causes must occur.
- Data must be used to discover causes.

- Identify stakeholders who are closest to the student achievement need and/or have relevant information.
- Convene group to clarify the issues.
- Adaptive leadership calls this “mobilizing the stakeholders to tackle tough problems.”

Again, the “Drilling Down” Process

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The Drilling Down Process

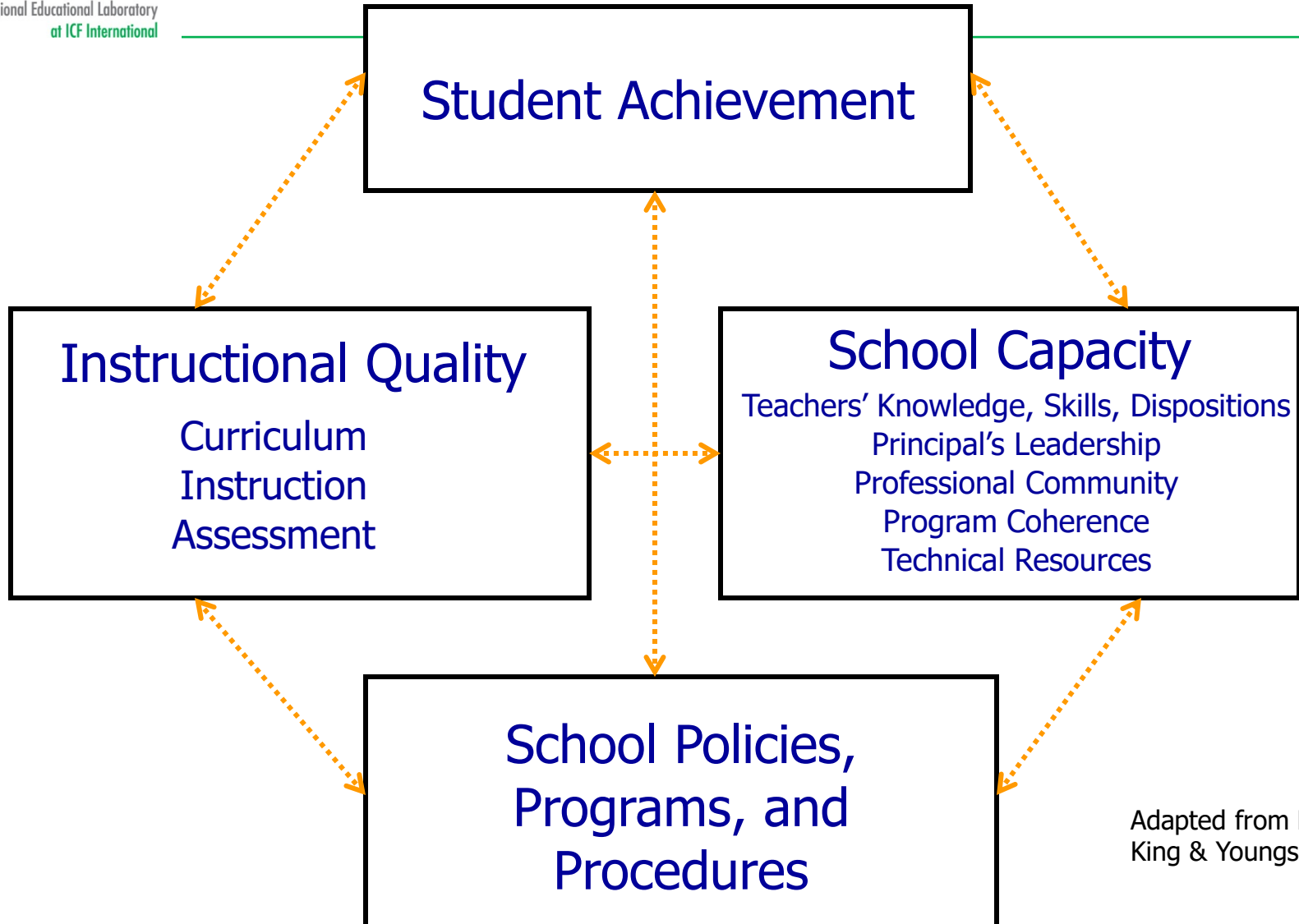


Leading Your Team: *Asking Questions*

Ask your team to: “Think about the identified student achievement need. What do you want to know about it?”

Have them write each question they have on a separate sticky note. They can then place the sticky on the “Framework for Data Collection.”

Framework for Data Collection (1)



Adapted from Newman,
King & Youngs, 2000.

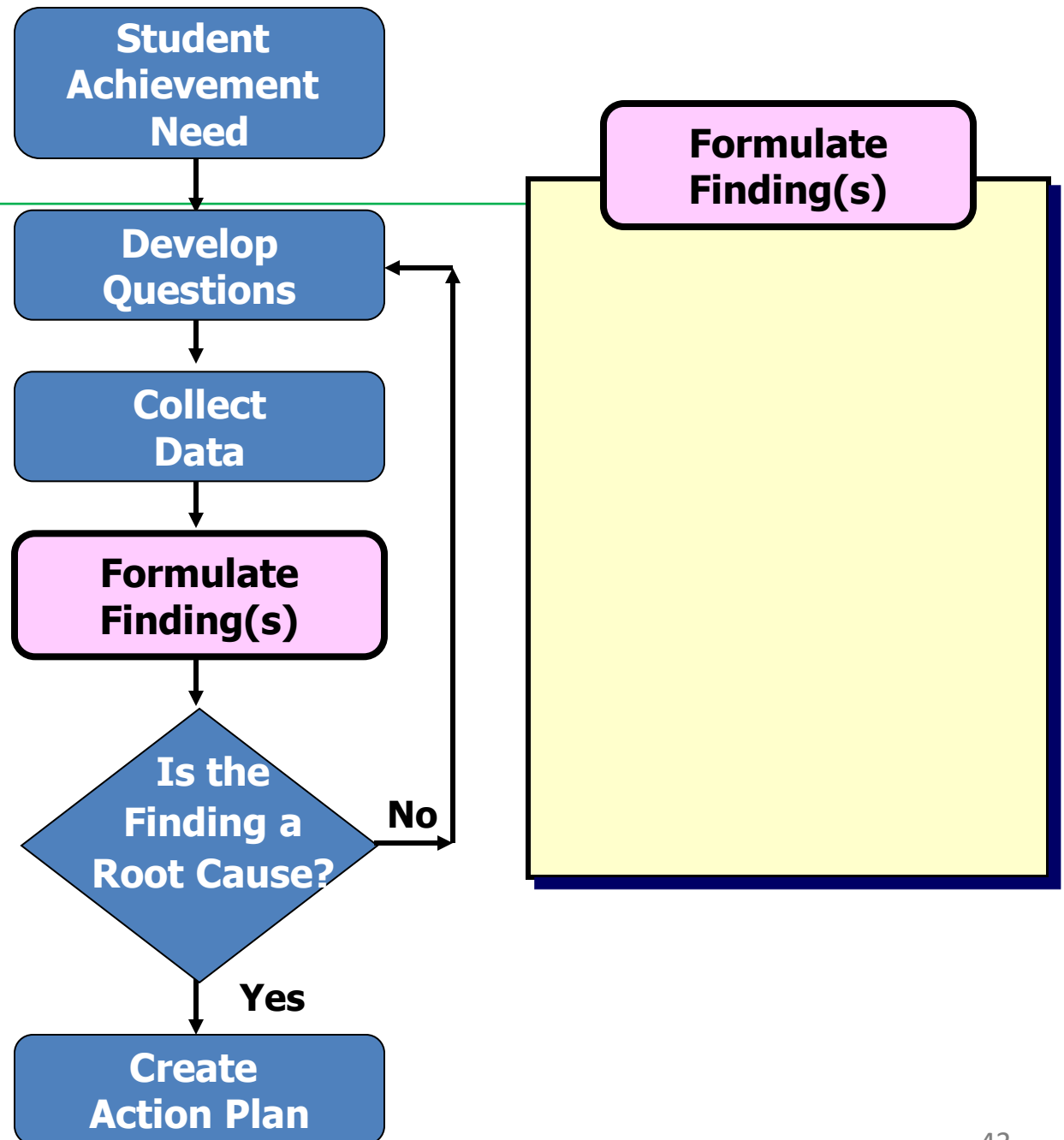
Framework for Data Collection (2)

The “Framework for Data Collection” is simply a structure to be used with the process to “drill down” through the data to identify root causes.

- Student Achievement: What are the concepts/skills in which each individual student is deficient?
- Assessment: How is formative assessment used diagnostically for reteaching?
- Programs: How effective is the current program for reading intervention? Other programs?
- Instruction: What evidence do we have that reteaching is a regular practice?
- School Capacity: Is staff knowledge sufficient or do we need staff development to solve the student achievement problem?

- Findings are statements of information that are gleaned from discussing the data.
- Staff is given time to answer the questions.
- Findings describe only the current state.
- Findings are not assumptions, they do not jump to conclusions, and they are not interventions.

The Drilling Down Process



1. Root causes are basic, underlying, specific reasons for student results.
2. Root causes do not blame. They don't blame students, staff, home lives, or any other factors.
3. No further questions are apparent.
4. In our professional opinion as a group, the causes appear to be accurate.

5. The causes are important and worth our effort.
6. We can address root causes and we expect the results to improve, if we do.
7. We can address many, but not all, root causes.

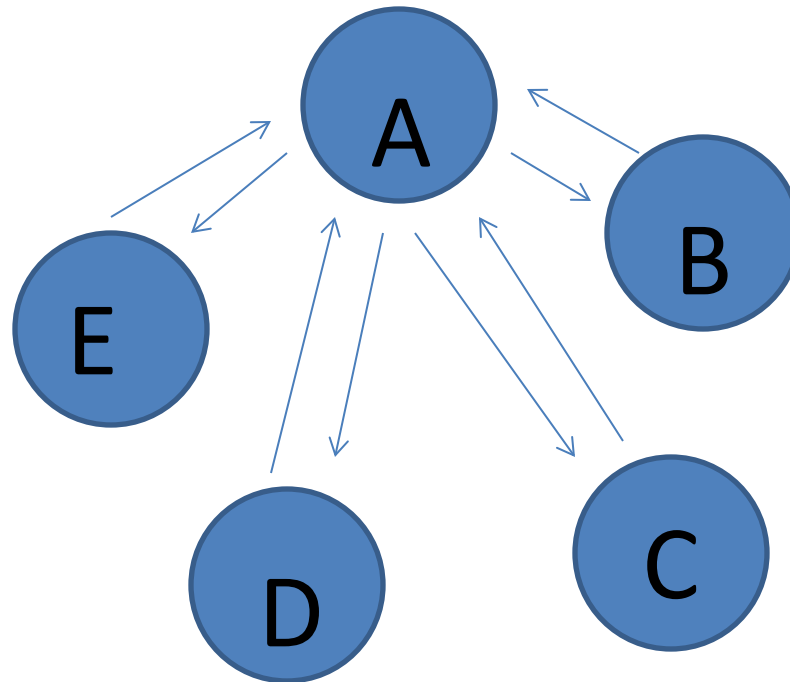
Narrowing the Root Causes

- Teams look at the findings
- As teams listen discuss their possible root causes, all other teams will cross out the same or similar root causes.
- Teams take turns until all the charted root causes are identified.

The inter-relationship diagram:

- Is used to focus decisions
- Determines if one cause has impact on another
- Is a forced choice exercise
- Identifies “power” among factors
e.g., “tap root” among root causes
- Considers all thinking; may reveal “issues”

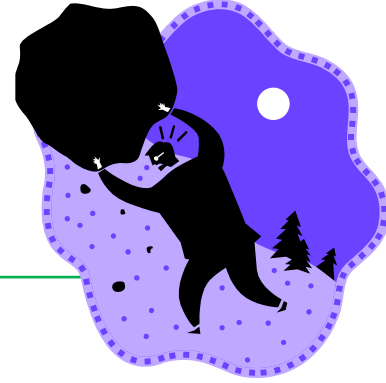
Interrelationship Diagram



What are the benefits of conducting a detailed root cause analysis?

- Using root cause analysis with your staff is consistent with the tenets of a PLC.
- Develop a culture that encourages and takes advantage of the knowledge and talents of staff.
- Entire team works together to ask questions, research and diagnose root causes, and prescribe new practices that improve student achievement.

Big Rocks



- Data analysis is essential for sustainable school improvement.
- An equitable leader should use teams of staff, who are closest to the student achievement need, to collaboratively identify the problem and engage in root cause analysis.
- Schools must dig deeply into student data, including what students and teachers are doing daily, in order for solutions to match the problems.
- You need to invest time—root cause analysis and school improvement are not an event.
- Equitable leaders understand that finding the root cause is an adaptive challenge and often involves loss, changing beliefs, and new learning.

- Root cause analysis is a collaborative process that all educators can use to solve adaptive challenges they face in the classroom.
- Root cause analysis is an equitable practice because it prevents practitioners and leaders from making assumptions about students and staff, resulting in failure to make change because they were solving problems with the wrong solution.

Audience Participation: Key Takeaways

**As a result of today's webinar,
what action steps do you plan
to take?**



Questions and Answers



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