Introduction to Root Cause Analysis

PACTA
Pennsylvania Inspired Leadership Program
*Improving PSSA Performance*
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Root Cause Basics

**ROOT CAUSE ANALYSIS** – An effective tool used both *reactively*, to investigate an adverse event that has already occurred, and *proactively*, to analyze and improve processes and systems before they breakdown.

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**Why Root Cause Analysis?**

- Helps dissolve problem, not just the symptom
- Eliminates patching & wasted effort
- Conserves scarce resources
- Induces discussion & reflection
- Provides a rationale for strategy
  - Can’t fix until you know what is wrong
  - Fundamental causes
  - Strategies targeted on the cause, not the symptom
Our Definition

Root Cause – the deepest underlying cause, or causes, of positive or negative symptoms within any process that, if dissolved, would result in elimination or substantial reduction, of the symptom.

School Leader’s Guide to Root Cause Analysis
By Paul Preuss

Root Cause or Causes?

- Schools are complex social systems
- Often impossible to isolate a single root cause
- May identify several causes creating a symptom
- Dissolving one or more causes reduces the symptom
- Medical diagnostics & treatment
- Fire

The Symptom – Low Levels of Student Achievement on PSSA

- Surface level problem
- Red flag that draws attention to the issue
- Symptom can be a noticeable gap between expectations & reality
- Understand that schools are composed of hundreds of processes
- Dissolving the root vs. patching the symptom
Modes of Root Cause Analysis

- **Negative Reactive**
  - Identify & dissolve roots for existing problems
  - Why did this happen?
  - What is holding us back?

- **Negative Proactive**
  - Identify & dissolve potential roots for future problems
  - What root processes, beliefs, attitudes, skills, and knowledge must we change to bring what we want to fruition?

- **Positive Reactive**
  - Identify & replicate roots for existing success
  - Why was this program a success?
  - What elements contributed to its success?

- **Positive Proactive**
  - Identify & implant roots needed for future problems
  - What root processes, beliefs, attitudes, skills, and knowledge must we install to bring what we want to fruition?

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**Positive Reactive**  
Reviewing possible roots of a program’s successful implementation or *What made it work?*

- Staff involvement in decision from the beginning
- Staff ownership over program implementation
- Staff were thoroughly trained
- Administrative support & resources
- Benchmarked with a successful school
- Parents were informed
- Program was aligned with philosophy & beliefs
Positive Proactive – What do we have going for us that will enable success in this process?

- Administrative leadership
- Staff desire for improved student achievement
- Needs to meet accountability expectations
- Knowing what the key problem issues are
- Technical capacity to analyze data

Negative Proactive – What forces will hold us back from being successful in RCA?

- Lack of extensive data
- Severe time constraints
- Lack of clerical support
- Lack of analysis capacities
- Training needs
- Team facilitation needs

Negative Reactive – Problem solving mode of immediate issues

- High failure rate in math
- Potentially failing students can be identified early – but given no extra help
- Remedies might include
  - More help for students identified as at risk for failing
  - Improved preparatory programs
  - Back to back periods or three semester course
**Levels of Root Causes**

- **Incident or procedural level**
  - A fight in the cafeteria fifth period Wednesday
- **Programmatic or process level**
  - There are always fights in the cafeteria every day at every period
- **Systemic level**
  - There are fights everywhere in the school
- **External level**
  - The whole community is fighting

**Elements at Each Root Cause Level**

- **Incident or Procedural Level**
  - The student
  - The rest
  - The teacher
  - The incident

- **Program Level**
  - Instructional process
  - Materials
  - Setting
  - Time
  - Alignment
  - Scheduling
  - Training/Staff Dev.
  - Adm. Procedures
  - Curriculum assessment

- **Systemic Level**
  - Leadership
  - Mission
  - Vision
  - Priorities
  - Morale
  - Planning
  - Budget
  - Culture
  - Facilities
  - Values/Beliefs

- **External Level**
  - Family
  - Community
  - Wealth/Poverty
  - Health
  - Media
  - Youth Culture
Determining if a Cause is Root or Contributing

1. Would the problem have occurred if the cause had not been present
   - No/Root – Yes/Contributing

2. Will the problem reoccur if the cause is dissolved
   - No/Root – Yes/Contributing

3. Will the correction of the cause lead to similar events
   - No/Root – Yes/Contributing

Indicators of a Root Cause

- Dead end asking what caused the proposed root cause
- Agreement among all that it is a root cause
- Logical, makes sense, provides clarity
- Cause is something you can influence & control
- If cause is dissolved, realistic hope that the problem can be reduced or prevented

The Five “Whys” – Getting to the Root Cause

- Team – Why are there so many class tardies?
  - Students: Because we do not have enough time to get from one class to another

- Team – Why don’t you have enough time?
  - Students: We only have four minutes

- Team – Why is the passing time four minutes?
  - Principal: We wanted to reduce the amount of student hallway time

- Team – Why did we want to reduce it?
  - Principal: Wanted to reduce discipline problems

- Team – Why did we want to reduce disciplinary problems?
  - Principal: Improve safety and climate
Key Indicators of Student Success

- A student-focused measurable outcome that the CTC has the ability, desire, or need to influence and for which it is willing, or required, to be held accountable
- PSSA Math Achievement
- PSSA Reading Achievement
- NOCTI

Is your CTC focused on these areas with an unrelenting sense of urgency?

Do all decisions & are all actions based on these Key Indicators of Student Success?

Reflective Root Cause Analysis

Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

- (1) Is there strong, observable evidence that the standards-aligned curriculum and instructional practices are consistently implemented across all academic and technical areas?
- Math, Reading, & NOCTI
- Yes/No – If no, Root Causes exist
- Five “Why’s” or other strategies
Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

(2) Is there strong, observable evidence that CTC staff regularly use standards-aligned benchmark assessments to monitor & adjust instructional practices?
- Yes/ No
- Supporting Evidence
- No – Root Causes exist

Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

(3) Is there strong, observable evidence that struggling students are identified early and are supported by an intervention infrastructure with a system for monitoring effectiveness?
- Yes / No
- Evidence
- Root Causes

Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

(4) Is there strong, observable evidence that all students (ELL students, Disabilities) have access to challenging, on-standard curriculum and rigorous assignments
- Yes/No
- Evidence
- Root Causes
Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

5. Is there strong, observable evidence that the effectiveness & experience of the teacher are matched to the needs of students as equitably as possible?
   - Yes/No
   - Evidence
   - Root Causes

Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

6. Is there strong, observable evidence that professional development is linked to the CTC’s instructional priorities; is standards-based; and is differentiated to meet the continuous learning needs of the staff?
   - Yes/No
   - Evidence
   - Root Causes

Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

7. Is there strong observable evidence that staff & administrators meet regularly to reflect on prof. practice and on the progress of student learning with an ongoing review/analysis of data & sharing best practices?
   - Yes/No
   - Evidence
   - Root Cause
Foundation/Guiding Questions from Focus on Results in CTE - W/S 8

- (8) Is there strong, observable evidence that new and/or “struggling” teachers, staff, and administrators receive timely, effective support & intervention?
  - Yes/No
  - Evidence
  - Root Causes

- (9) Is there strong, observable evidence that a significant proportion of the CTC’s resources is directed toward strategies that enhance professional practice & the core instructional program?
  - Yes/No
  - Evidence
  - Root Cause

- (10) Is there strong, observable evidence that the principal is proactively involved in aligning the components of a standards-aligned system?
  - Yes/No
  - Evidence
  - Root Cause
References