

Root Cause Analysis Approaches

for CTE Audit Program Reinstatement

Division of Career and Adult Education (DCAE)

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CTE Root Cause Analysis Approaches

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Introduction to Root Cause Analysis

A Root Cause Analysis (RCA) is a structured, systematic approach used to identify the underlying cause(s) of a problem rather than its surface-level symptoms. In the context of Career and Technical Education (CTE) program reinstatement, RCA provides a disciplined and structured framework for understanding why a program did not meet required CTE Audit performance metrics, produces a root cause for agency improvement planning and serves as an artifact of evidence in consideration of program reinstatement.

RCA supports data-informed decision making and directs targeted improvement efforts. By moving past anecdotal explanations or reactive responses, RCA helps program administrators and agency leadership identify the primary correctable and specific condition(s) that contributed to the program's underperformance. This matters directly in the reinstatement context, as the DCAE will assess implemented plans that specifically address the RCAs of the metric(s) that lead to phase out – not future intentions but completed actions.

It is important to understand that multiple RCA approaches can be suitable for different types of problems, data availability and inter-agency dynamics. No single method is universally superior to the other. Some methods are suited for quantitative analysis, others for collaborative brainstorming and others for tracing chronological sequences. Selecting the right approach, or combination of approaches, depends on the nature of the performance gap being examined.

Why Multiple RCA Approaches Matter

Problems vary in complexity and scope, and a one-size-fits-all analytical method may miss the priority issue. For example, a performance gap in the industry certification rate might involve instructor availability, data reporting errors, exam scheduling conflicts or student eligibility determinations, each of which may call for a different analytical lens.

Some approaches work best with qualitative discussion, such as collaborative team-based exercises that elicit stakeholder knowledge and lived experience. Others require quantitative data such as frequency counts or trend analysis to identify patterns that cannot be seen through conversation alone. Using the wrong approach can oversimplify, misdirect or misrepresent the issue, leading to improvement plans that address symptoms rather than root causes.

Most importantly, RCA approaches are often complementary rather than exclusive. An agency submitting a reinstatement application may find that beginning with a broad tool to define the scope of a problem, apply a more targeted methodology to interrogate the data and finally use a collaborative exercise to synthesize stakeholder inputs produce a far more

complete picture than any single method in isolation. The following sections describe ten approaches available to CTE agency administrators and the conditions under which each is most useful.

Overview of RCA Approaches

Five Whys Exercise

What It Is

The Five Whys is an interrogative approach that involves asking the question “Why?” repeatedly in response to a problem statement. Each answer becomes the basis for the next question, progressively moving from surface observation to underlying cause. Though this approach is named for the five iterations of questioning that are typically sufficient to reach a root cause, the number of iterations may vary.

When to Use It

The Five Whys is most effective when analyzing problems that involve a linear chain of causation. It is particularly useful in situations where a team needs to quickly move past symptomatic explanations to identify core foundational structural or operational failure. It works well in both individual reflection and facilitated group settings.

How to Use It

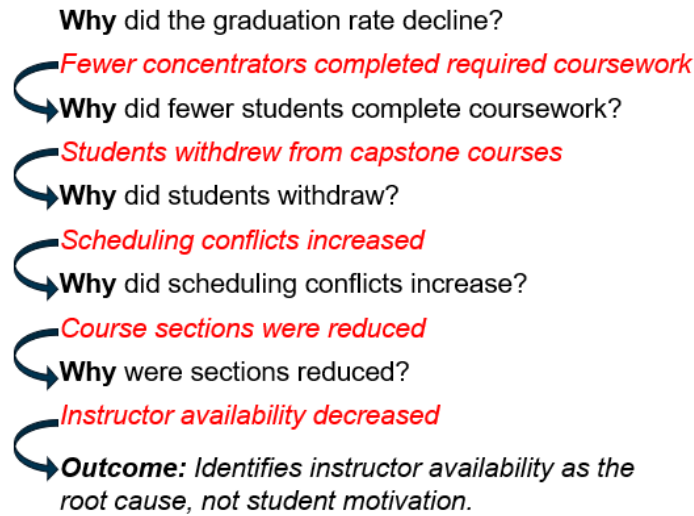
Begin by writing a clear problem statement. Then ask why the problem occurred. Take the answer to that question and ask why that occurred. Continue this process until the team reaches a cause that is actionable and correctable. The challenge of this method lies in resisting the temptation to stop at the first plausible explanation and press for deeper systemic understanding.

Worked Example

When given the Problem Statement: “Graduation rate for Program X declined this year”, we can apply the Five Whys (Figure 1) with the analysis as follows: Why did graduation rates decline? Fewer concentrators completed the required coursework. Why? Students withdrew from capstone courses. Why? Scheduling conflicts increased. Why? Course sections were reduced. Why? Instructor availability decreased. The outcome of this approach determined that the root cause was instructor availability, not student motivation, ability or instructional quality, which might have been the first or most convenient explanation.

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Figure 1. Five Whys Worked Example



Fishbone (Ishikawa) Diagram

What It Is

The Fishbone Diagram, also known as the Ishikawa or Cause-and-Effect Diagram, is a visual approach that organizes potential causes of a problem into categories displayed as branches that emanate from a central spine. The problem statement appears as the “head” of the diagram, with the causes forming the “bones,” such as People, Processes, Data, Material and/or Environment. Each of the causes can be subdivided into contributing sub-causes.

When to Use It

The Fishbone Diagram is well suited to complex problems with multiple contributing factors that span different organizational areas. It is particularly effective in group brainstorming settings where diverse stakeholders bring different perspectives on why a problem may have occurred. Its visual structure makes it useful for communicating the full scope of a problem to decision-makers.

How to Use It

Write the problem statement at the head of the diagram. Identify the major cause categories relevant to the problem. Brainstorm causes within each category, then add sub-causes where applicable. Once the diagram is complete, review the causes to identify patterns, clusters or priority areas that appear across multiple categories to determine the root cause of the problem from one or more categories.

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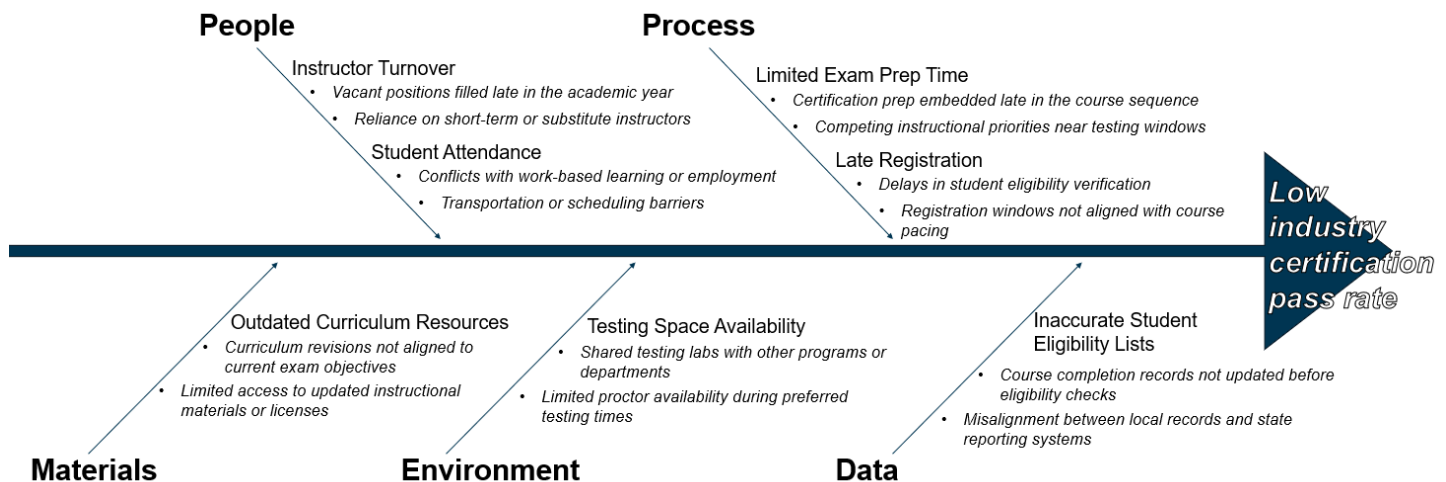
Worked Example

For a low industry certification pass rate, a Fishbone Diagram (Figure 2) might identify the following contributing causes across categories:

- **People:** instructor turnover, including vacant positions filled late in the academic year and reliance on substitute instructors, as well as student attendance barriers related to work-based learning conflicts and transportation issues.
- **Process:** limited exam preparation time, with certification preparation embedded late in the course sequence and competing instructional priorities near testing windows.
- **Materials:** outdated curriculum resources not aligned to current exam objectives and limited access to updated instructional materials.
- **Environment:** testing space availability constraints and limited proctor availability during preferred testing windows.
- **Data:** inaccurate student eligibility lists due to misalignment between local records and state reporting systems.

Each of these categories reveals root causes that would be invisible if the analysis had stopped at a single explanation. A primary theme across the categories' root causes appears to be poor scheduling/timing of process tasks. This becomes the root cause of the initial problem of having a low industry certification pass rate.

Figure 2. Fishbone (Ishikawa) Diagram Worked Example



Circle Map

What It Is

The Circle Map is a visual thinking map drawn as two concentric circles. The problem or topic is placed in the inner circle and everything known about it – facts, data points, perceptions, observations and contextual factors – is captured in the outer circle. The “framework” of these information notes exists outside of the circles: a holding space for contextual information about the perspective of each data point.

When to Use It

The Circle Map is most useful in the early stages of analysis, before the team has determined what the real problem is or where to focus the investigation. It is well suited to situations where defining the context and scope of the problem is itself a challenge, or where there is a risk that the team might jump to conclusions before fully understanding the landscape.

How to Use It

Write the problem in the center. In the outer circle, list all related facts, perceptions, data points and influences that the team can identify – without filtering or judging relevance at this stage. Once the outer circle is populated, use those contents to identify areas needing deeper analysis. Ideas can then be sorted into natural themes, with attention to which groupings represent the highest-leverage root cause.

Worked Example

For a program that did not meet the Industry Certification Performance Target (Figure 3), the outer circle might include:

- Three-year performance trend data,
- Recent program changes in curriculum or staffing,
- Student enrollment counts,
- Audit metric thresholds,
- Survey response rates, and
- Three-year certification testing windows.

It might also include stakeholder observations such as:

- Testing dates announced late,
- Students unaware of certification requirements,
- Exam registration steps unclear,
- Exam prep occurs after eligibility deadline,
- Limited access to practice exams,
- Testing dates conflict with internships, and
- Certification vendor changed exam format mid-year.

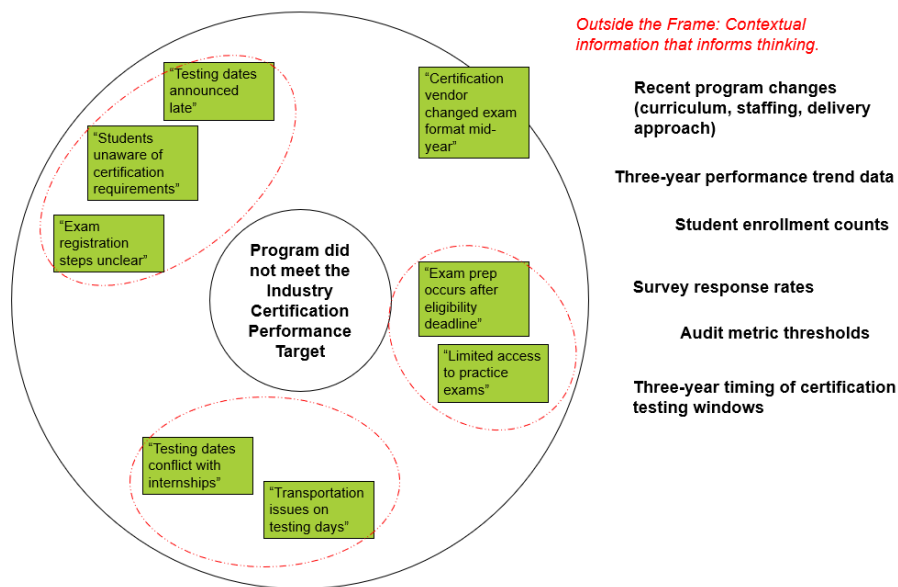
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Sorting these items into natural themes include:

1. Communication failures,
2. Scheduling barriers, and
3. Eligibility process issues.

These themes guide the team toward the highest-leverage areas for root cause determination. You may find that some points do not fit into themes. These outliers, such as “certification vendor changed exam format mid-year” may still provide niche insights that could serve as jumping-off points for further investigation.

Figure 3. Circle Map Worked Example



Pareto Diagram

What It Is

The Pareto Diagram is a bar chart that ranks causes or issue categories by their frequency or impact of a total, typically displayed alongside a cumulative percentage line. It is based on the Pareto Principle – also known as the 80/20 rule – which holds that roughly 80 percent of a problem's effects stem from 20 percent of its causes. By making this distribution visible, the diagram helps teams focus their efforts on the factors that will lead to the problem's root cause.

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When to Use It

The Pareto Diagram is most useful when quantitative data is available to categorize and count the frequency of different contributing factors. It is particularly effective when an agency needs to prioritize among many possible causes and cannot address them simultaneously, essentially performing a problem triage. It is also useful for communicating priorities to stakeholders who need to understand where resources should be directed to best effect.

How to Use It

Collect data on causes or issue categories, then rank them from highest to lowest frequency or impact. Plot the categories as bars in descending order and overlay a cumulative percentage line. The "vital few" contributors, or those that account for most of the problem, will be visually apparent on the left side of the chart. The contributor that, when resolved, will have the most positive effect in reversing the problem becomes the root cause.

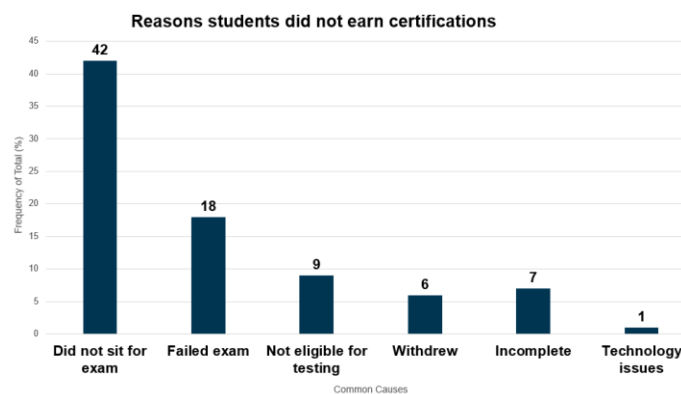
Worked Example

For a program analyzing why students did not earn certifications (Figure 4), the data might show the following distribution across six categories:

1. students who did not sit for the exam (42 cases),
2. students who failed the exam (18 cases),
3. students who were not eligible for testing (9 cases),
4. students with incomplete coursework (7 cases),
5. students who withdrew (6 cases), and
6. students who experienced technology issues (1 case).

A Pareto Diagram of these data makes immediately clear that non-participation in the exam accounts for the largest share of uncertified students by a wide margin. The outcome of this analysis shifts focuses from instruction quality to exam access, scheduling and communication – a meaningfully different root cause of the problem.

Figure 4. Pareto Diagram Worked Example



Causal Factor Charting

What It Is

Causal Factor Charting is a chronological mapping technique that plots a sequence of events leading to an undesired outcome, alongside the conditions or contributing factors associated with each event. These events can be definitive (based on objective observation) or presumptive (needing more supporting evidence). Unlike methods that analyze causes categorically or simultaneously, this approach emphasizes the temporal relationships between events, sometimes appearing to be unrelated when viewed in isolation. The events will present the cause of the problem as conditions interact over time.

When to Use It

Causal Factor Charting is most effective for analyzing process failures and compliance or operational breakdowns where the sequence of events matters. Understanding what happened first, second and third is essential to understanding why the outcome occurred. It is particularly useful when an incident or pattern of underperformance cannot be attributed to a single cause but rather emerged from a chain of interacting conditions.

How to Use It

Define the undesired outcome clearly. Working backward or forward in time, map the events that preceded or contributed to it. For each event, identify the conditions or causal factors, both confirmed and presumptive, that were present. Examine the relationships between events and outcomes, paying particular attention to where conditions interacted or compounded one another. The factor that, when resolved, will have the most positive effect in reversing the problem will be the root cause.

Worked Example

For a program where the Industry Certification Rate did not meet its target, a Causal Factor Chart (Figure 5) might trace the following sequence:

1. A new reporting system was implemented mid-cycle, but the required training was not completed before the system went live.
2. Additionally, staff vacancy during the reporting window led to reporting responsibilities being redistributed without timeline adjustment.

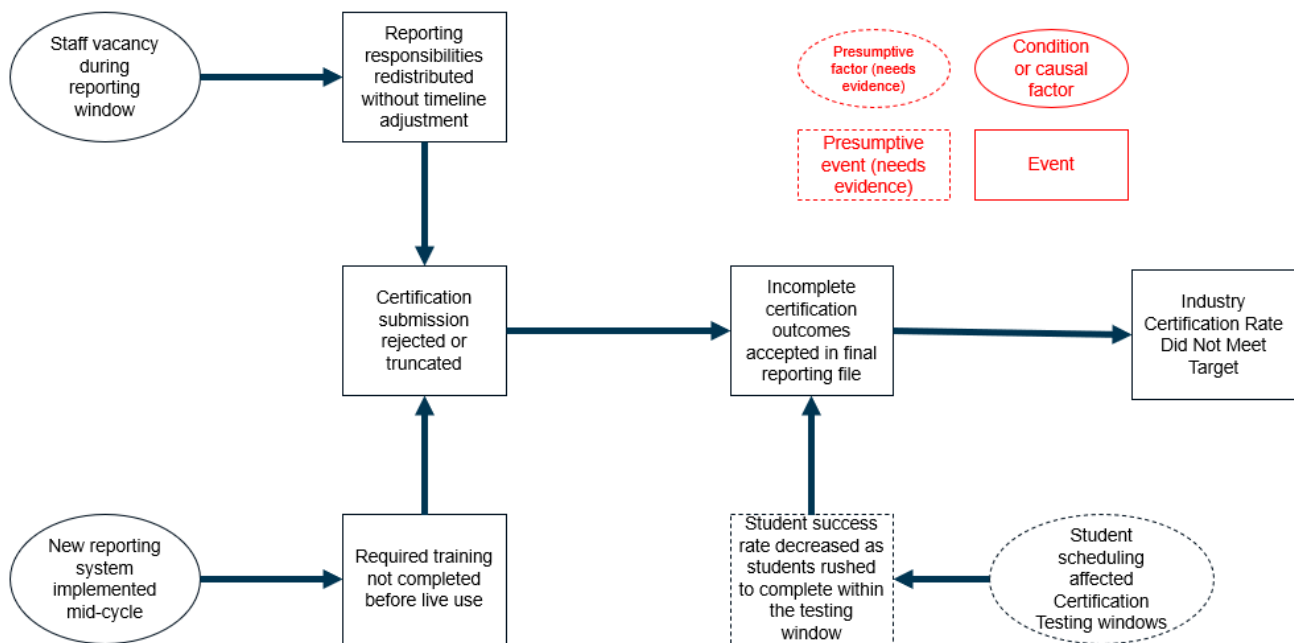
Both events contributed to submissions being rejected as incomplete with some completion results being truncated.

3. Presumptively, student scheduling affected certification testing windows. Incomplete certification outcomes were accepted in the final reporting file.

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Both the rejection and truncation of exam results and the presumptive decreasing student success rates lead to the overall decrease in certification rates, with the final resulting in metric failure. The chart demonstrates that the problem resulted from a series of interacting causes, a technology change, a staffing gap, a process failure, and a data quality issue, rather than a single error or point of failure. A review of if the problems still exist and a percentage of students affected by each will indicate which cause effects the most students, which will become the root cause.

Figure 5. Casual Factor Charting Worked Example



Force Field Analysis

What It Is

Force Field Analysis is an analytical approach that examines the forces supporting and opposing an event displayed as opposing columns or vectors on either side of an outcome. The approach is grounded in the idea that any situation represents a dynamic equilibrium between forces pushing toward and away from a given outcome.

When to Use It

Force Field Analysis is useful in root cause analysis contexts when a team is trying to determine contributing factors to a problem.

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How to Use It

Define the desired outcome. List the driving forces with those that support that outcome in one column and those that hinder it in the other. Assess which driving forces can be strengthened and which restraining forces can be reduced or eliminated. This method informs root cause analysis implementation planning by surfacing the problems and their causes that will need to be improved upon for reinstatement eligibility.

Worked Example

For a program desiring to have a particular Industry Certification Rate target, the driving forces might include:

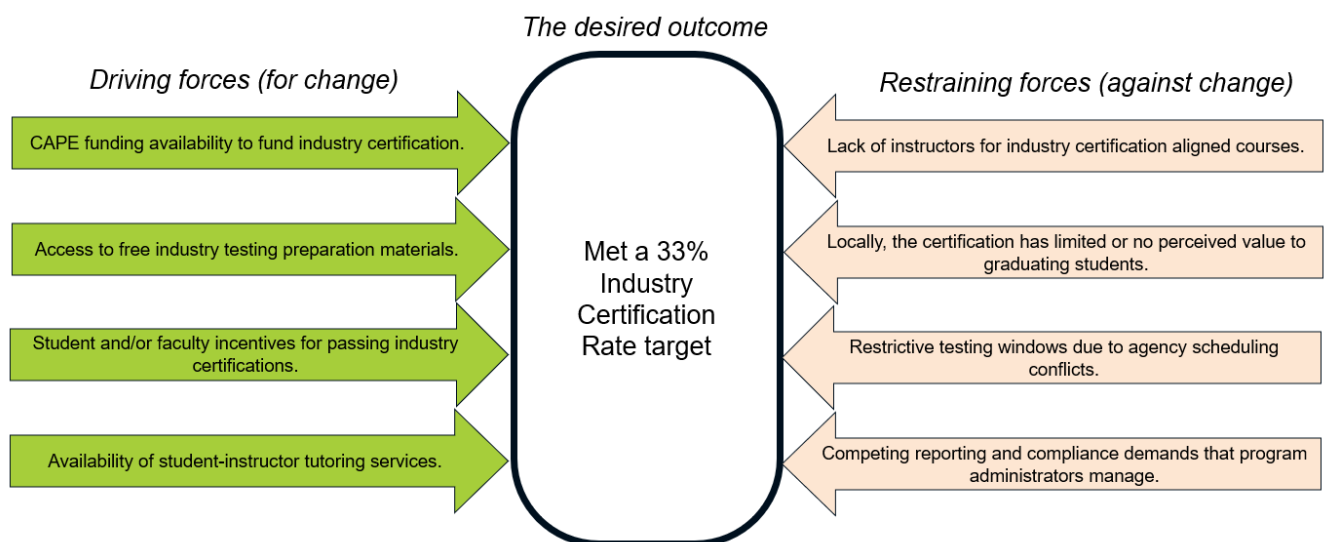
- CAPE funding availability to fund industry certification.
- Access to free industry testing preparation materials.
- Student and/or faculty incentives for passing industry certifications.
- Availability of student-instructor tutoring services.

The restraining forces might include:

- Lack of instructors for industry certification aligned courses.
- Locally, the certification has limited or no perceived value to graduating students.
- Restrictive testing windows due to agency scheduling conflicts.
- Competing reporting and compliance demands that program administrators manage.

Understanding both sides of this analysis helps teams design implementation approaches that anticipate and address resistance. Upon careful analysis, some of these elements can be easily addressed while others may take a more concentrated approach.

Figure 6. Force Field Analysis Worked Example



Diagnostic Tree

What It Is

The Diagnostic Tree is a decision-tree approach that narrows the field of possible causes through a structured series of yes-or-no questions. Beginning with a problem statement, the tree branches based on the yes-or-no answers, with each branch leading either to a confirmed cause or to a further question. The method draws on the logic of troubleshooting processes used in technical and rule-based systems to produce the root cause of a problem.

When to Use It

The Diagnostic Tree is best suited to problems that exist within systems with known decision pathways, where the rules governing whether something should or should not have occurred are clear, and where the task is to determine which rule was violated or which condition was not met. It is particularly useful for identifying and reporting data management errors within audit contexts.

How to Use It

Begin with the main problem statement. Ask the first yes-or-no diagnostic question relevant to that problem. Follow the branch that corresponds to the answer. Continue asking questions and following branches until the analysis arrives at a confirmed root cause or identifies a gap requiring further investigation.

Worked Example

For a program where students expected to be counted as CTE concentrators were excluded from the secondary audit denominator, the Diagnostic Tree might ask:

1. Did the student complete the required number of CTE courses?

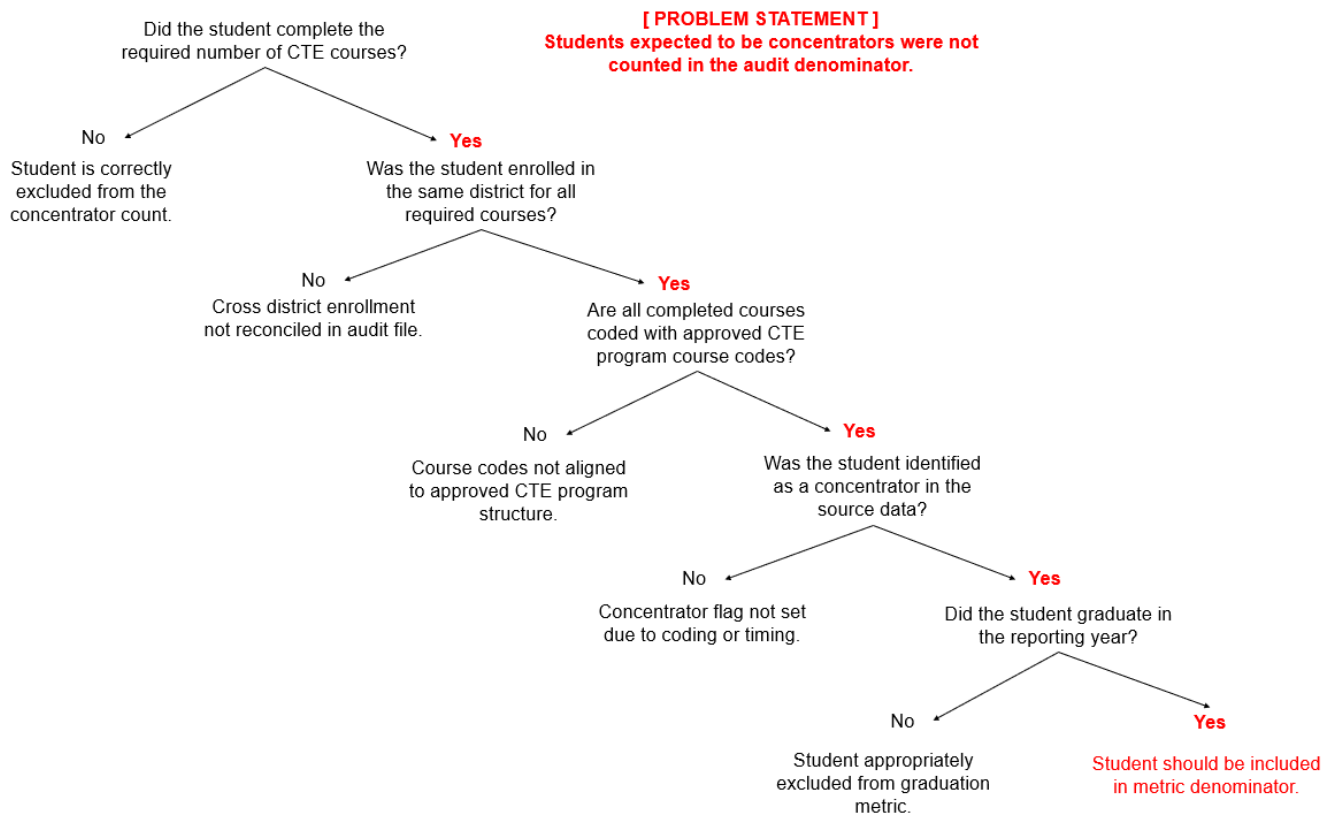
This leads to a diagnostic yes-or-no answer. Whenever the decision tree hits a “no” node, then that branch ends. Following the “yes” nodes:

2. Were all complete courses coded with approved CTE program course codes?
3. Was the student enrolled in the same district for all required courses?
4. Was the student identified as a concentrator in the source data?
5. Did the student graduate in the reporting year?
6. The student is appropriately excluded and a check within the internal system did not work correctly, causing the exclusion where it shouldn't have.

Tracing this logic reveals that coding and enrollment structure issues led to students not being flagged as concentrators, which caused them to be excluded from the denominator, resulting in a graduation rate calculated on a smaller and unrepresentative concentrator group.

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Figure 7. Diagnostic Tree Worked Example



Questioning Data Schematic

What It Is

The Questioning Data Schematic is a structured method for interrogating a dataset to surface inconsistencies, gaps and assumptions that may be obscuring the true picture. Simplified, it is a questioning of questioning. It organizes inquiry into a series of structured questions about *what* the data measures, *how* it is collected and stored, *how* it is processed and transformed, *what* context surrounds it and *what* evidence supports or contradicts it.

When to Use It

This approach is most useful in data-driven investigations where the reported outcome does not align with local experience or expectation, and where the team suspects that data collection, processing or reporting practices may contribute to the discrepancy. It is particularly well suited to where multiple data sources, matching algorithms and eligibility definitions interact.

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How to Use It

Identify the dataset in question. Apply structured inquiry across multiple dimensions: *what* is being measured and whether all eligible students are included; *how* the data is collected, stored and processed; *what* context surrounds the data including timeline and response rates; and *what* assumptions underlie the data and *what* evidence supports or contradicts the reported values. Use findings to refine the problem statement and direct further investigation.

Worked Example

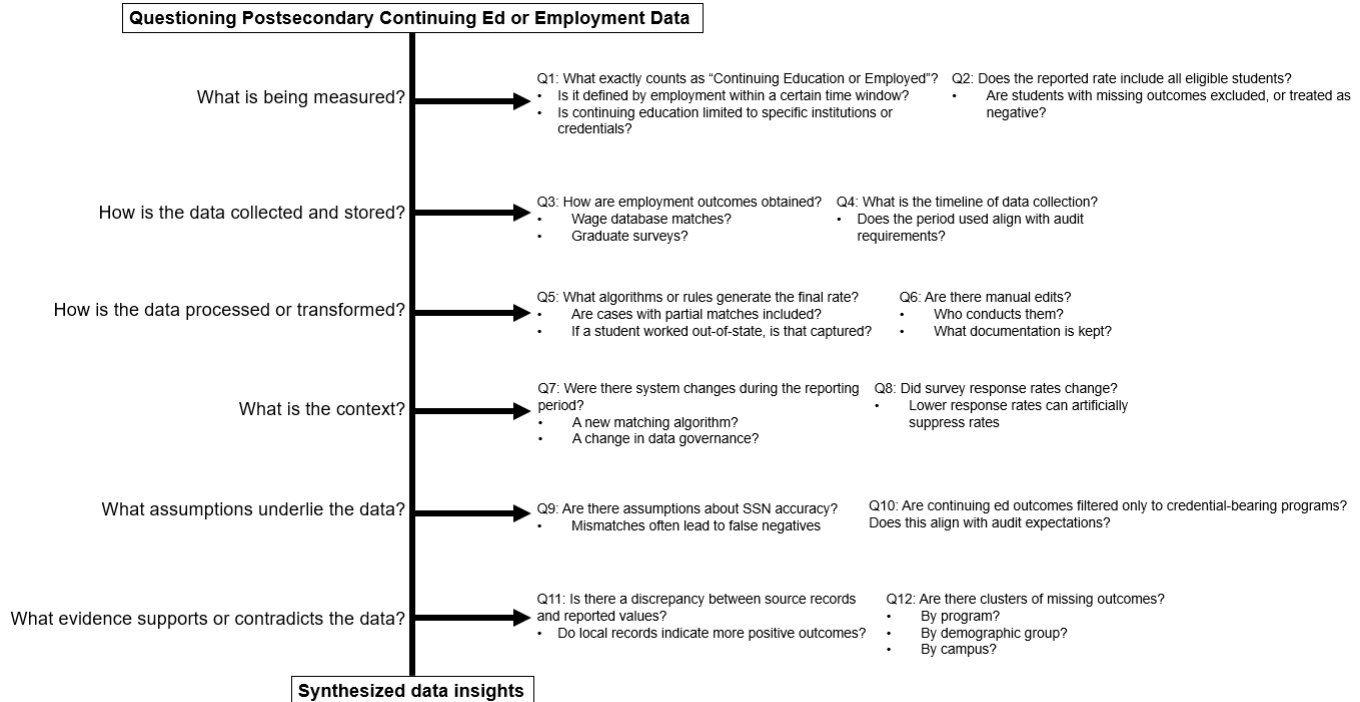
For a program investigating its Postsecondary Continuing Education or Employment rate, the schematic might raise some of the following questions:

1. What exactly counts as a qualifying outcome—is employment defined by a particular time window, and is continuing education limited to credential-bearing programs?
2. Are all eligible students included in the denominator, or are students with missing outcomes treated as negative?
3. How are employment outcomes obtained—through wage database matches, graduate surveys or both?
4. Does the reporting period align with audit requirements?
5. Are there manual edits to the data, and if so, who conducts them and what documentation is kept?
6. Were there system changes during the reporting period, such as a new matching algorithm or change in data governance?
7. Did survey response rates change, since lower response rates can artificially suppress reported outcomes?
8. Are there assumptions about Social Security Number accuracy, since mismatches often produce false negatives?
9. Do local records indicate more positive outcomes than the reported values?
10. Are there clusters of missing outcomes by program, demographic group or campus?

This structured interrogation frequently surfaces procedural and technical explanations as root causes for performance gaps that would otherwise be attributed to program quality.

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Figure 8. Questioning Data Schematic Worked Example



Affinity Diagram

What It Is

The Affinity Diagram is a method for organizing large volumes of qualitative input—ideas, observations, concerns, stakeholder feedback—into coherent thematic groupings. Also known as the KJ Method, it is designed to surface patterns and consensus in complex, multifaceted problems where the range of input is too varied or voluminous to analyze without a structured organizational step.

When to Use It

The Affinity Diagram is most useful in brainstorming sessions and stakeholder feedback analysis, particularly when the team has gathered input from multiple sources such as staff, students, administrators and partners, and needs to make sense of it. It is especially effective when the problem involves crossover issues that affect multiple stakeholder groups, since the grouping process helps reveal shared concerns that might otherwise appear as isolated observations.

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How to Use It

Collect ideas or observations from all relevant sources and write each one on a separate note. Arrange the notes in open space and group similar ideas together without imposing a predetermined structure. Once natural groupings emerge, label each group with a header that captures the common theme. Ideas that do not fit clearly into any group are left as standalone items. Ideas that fit more than one group can be duplicated and placed in both. The resulting themes guide discussion and keep problem solving within scope.

Worked Example

For a program investigating why eligible 12th-grader concentrators were not earning industry certifications at the expected rate, stakeholder input might initially yield many raw observations including:

- “Students did not know certification was required,”
- “Exam fees were confusing to families,”
- “Eligibility lists changed after registration,”
- “Testing dates conflicted with internships,”
- “Transportation issues occurred on test day,”
- “An instructor was hired after the semester started,”
- “Students passed the exam but were not reported,”
- “Practice exams were not available,”
- “Course sequences changed mid-year,”
- “Students were enrolled at multiple schools,”
- “The vendor exam window was late,” and
- “Certification preparation started after the eligibility cutoff.”

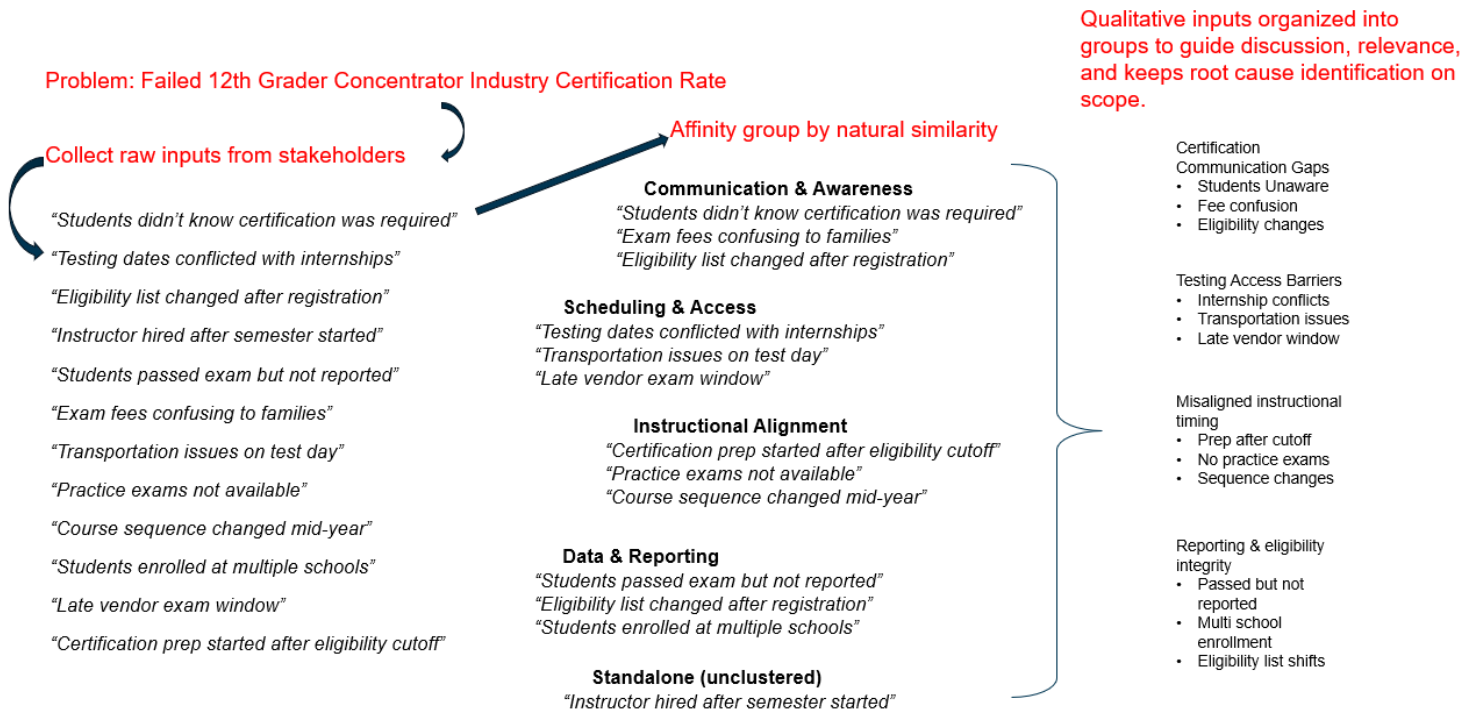
Organizing these observations into an Affinity Diagram produces four major themes:

1. Communication and Awareness,
2. Scheduling and Access,
3. Instructional Alignment, and
4. Data and Reporting.

One item, “the instructor hired after the semester started”, does not fit cleanly into any theme and is retained as a standalone observation. This structure transforms a disorganized list of complaints into a focused set of root cause categories.

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Figure 9. Affinity Diagram Worked Example



Is / Is Not Exercise

What It Is

The Is / Is Not Exercise is a comparative analysis tool that clarifies the boundaries of a problem by systematically distinguishing what is observed from what is not. Organized around four categories, "What," "Where," "When," and "Who," it populates each with factual observations about what the problem is and, equally importantly what it is not. The contrasts produced by this comparison narrow the field of possible causes by ruling out conditions that do not apply.

When to Use It

The Is / Is Not Exercise is most useful when a problem is ambiguous or poorly defined, when there is a tendency toward overgeneralization in how the problem is being described or when stakeholders are making attributions that are broader than the evidence supports. When approaching a problem using several approaches, understanding what is and what is not a cause is a great start if you do not know where to begin. Statements such as "students aren't earning certifications," "the teaching material was bad," or "programs aren't aligned" are the kinds of overgeneralizations this method is designed to anchor and correct.

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How to Use It

Create a table with four sections corresponding to “What,” “Where,” “When,” and “Who.” For each section, populate the Is column with specific, factual observations about the problem, and populate the Is Not column with conditions that are absent or do not apply. Compare the contrasts across rows to narrow the range of plausible causes. Use findings to guide to the root cause.

Worked Example

For a program where eligible 12th-grader CTE concentrators are not being counted as earning an industry certification at the expected rate, the Is / Is Not table might show the following. “What Is” may include that the certification rate was below target but “What Is Not” is that students are not failing courses. This may immediately rule out that course failure is a contributing factor. “Where Is” tells us that the issue appears in specific programs and is not affecting all CTE programs. The “Where Is Not” insight establishes that the issue is program- and structure-specific, not system-wide. Under “When Is,” the pattern appears in the most recent reporting year with certifications earned near year end and the issue did not appear in prior reporting years. The “When” insight suggests a timing or cutoff interaction rather than a long-standing instructional failure. Finally, the “Who Is” tells us that the affected population is 12th-grader concentrators with late eligibility changes and multiple enrollments. However, students “Who Are Not” affected are students enrolled in a single program. This confirms that the problem is population-specific, not student-wide. The more elements identified may reveal interconnected issues that lead directly to the root cause.

Figure 10. Is / Is Not Exercise Worked Example

Problem: Eligible 12th-grader CTE concentrators are not being counted as earning an industry certification at the expected rate.

WHAT		WHERE	
IS	IS NOT	IS	IS NOT
- Students are counted as concentrators - Certification rate below target - Fewer certifications reported than expected	- Students failing courses - Certification exam not offered - No students attempting certifications	- Specific programs within the district - Programs using external testing vendors - Students enrolled across multiple sites	- All CTE programs - Programs with embedded certifications - Single site enrollment programs
<i>Insight: This immediately rules out course failure, lack of exam availability, or zero participation.</i>		<i>Insight: The issue is not system-wide. It appears program- and structure-specific, not universal.</i>	
WHEN		WHO	
IS	IS NOT	IS	IS NOT
- Most recent reporting year - Students completing coursework late - Certifications earned near year end	- All prior reporting years - Students completing early - Certifications earned mid year	12th grader concentrators - Students with late eligibility changes - Students with multiple enrollments	- Non concentrators - Students eligible at year start - Students enrolled in one program
<i>Insight: This suggests a timing or cutoff interaction, not a long-standing instructional failure.</i>		<i>Insight: The problem is population-specific, not student-wide.</i>	

Choosing the Right RCA Approach

Selecting an appropriate RCA approach requires consideration of several factors. It should be noted that there is no “correct” choice other than the choice that yields the root cause of the situation. Other agencies with a similar problem may not have the same root cause. The complexity of the problem matters: straightforward linear failures may be well served by the Five Whys, while multifaceted problems spanning organizational functions may require the Fishbone Diagram or Affinity Diagram to fully map contributing causes. Data availability is equally important: approaches like the Pareto Diagram and Questioning Data Schematic require quantitative data or structured datasets, while methods like the Circle Map and Is / Is Not Exercise can be applied with primarily observational or qualitative input.

Stakeholder involvement should be a consideration to have the most input. Some approaches, such as the Fishbone Diagram, Circle Map and Affinity Diagram, are designed to be conducted in facilitated group settings and benefit from the diversity of perspectives that multiple stakeholders bring. Others, such as the Diagnostic Tree or Causal Factor Chart, are more suited to a smaller team or individual analyst working through a structured logical sequence. You may find that, as you develop your approach(es), you encounter difficulties. This may not be an indication of a misunderstanding of the approach’s use but may be a result of the need for a more appropriate approach to be used instead.

Finally, it is worth emphasizing that more than one approach may be used sequentially or in combination. A program might begin with a Circle Map to establish context and scope, use an Is / Is Not Exercise to define the precise boundaries of the problem, apply a Pareto Diagram to prioritize among multiple contributing factors and conclude with a Five Whys analysis to trace the causal chain for the most significant factor. This kind of complementary use of methods produces a more rigorous and defensible root cause analysis than any single approach could achieve alone. The main objective is to identify the root cause of the problem so corrective actions may have the most effect.

Key Takeaways

Several principles should guide the application of any root cause analysis approach in the CTE reinstatement context. Stating again, there is no “correct” choice; it is all about finding the root cause of the program’s issue. RCA approaches are tools, not answers. They structure the inquiry while the rigor and honesty of the team and your stakeholders using them determines the quality of the analysis. A well-executed Five Whys that challenge comfortable assumptions will produce more useful findings than a perfunctory Fishbone Diagram that confirms what the team already believed. If the root cause is known, then the

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program failure should not have occurred. These approaches help guide inquiry into the unknown.

A clear problem definition is critical. The quality of a root cause analysis is almost entirely determined by the quality of the problem statement that initiates it. Vague or overly broad problem statements lead to vague or overly broad findings. Investing time in defining the problem precisely, using tools like the Is / Is Not Exercise or Circle Map, before proceeding to deeper analysis is well spent time.

Always consider that a structured analysis supports better decision-making. The approaches described in this guide are not bureaucratic requirements; they are methods for overcoming the cognitive shortcuts and organizational biases that often lead institutions to address symptoms rather than causes. Using them with fidelity produces findings that are more likely to lead to genuine, lasting improvement.

Finally, the chosen approach should align with context and purpose. The ten methods described here span a wide range of analytical styles and use cases. Choosing among them thoughtfully, based on the nature of the performance gap, the data available and the stakeholders involved, is itself an act of analytical discipline that strengthens the credibility of the resulting reinstatement application.