Facilitating Root Cause Analysis Tools
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Facilitating Root Cause Analysis Session Description and Outcomes

Session Description

Provided in partnership with the Center for Transforming Learning and Teaching (CTLT), this learning session is intended for anyone who finds themselves needing to facilitate root cause analysis with planning teams. Root Cause Analysis (RCA) is a critical component of Unified Improvement Planning in Colorado. Effective RCA helps planning teams ensure that the actions they take will result in improvement in student learning. Participants in this session will learn how to plan an effective RCA, practice using various RCA dialogue protocols (including RCA on positive performance), identify ways that RCA can "go wrong" with different groups, and access and practice facilitation strategies to ensure RCA sessions stay on track and are productive and positive for all participants.

Session Outcomes

Participants will. . .

1. Define root cause and explain the role of root cause analysis in unified improvement planning (UIP), including how data trends and priority performance challenges focus root cause analysis, and how root cause analysis shapes action planning.
2. Describe who should participate in root cause analysis, when and
3. Identify different participation structures (e.g. full staff, grade/content teams with aggregator, etc.)
4. Define and describe the critical steps of a root cause analysis process as part of improvement planning including:
    o   Focusing on a priority performance challenge or two or more closely related priority performance challenges.
    o   Consider school/district context (process/perception information)
    o   Brainstorm explanations (hypothesis) for performance challenges
    o   Categorize and classify explanations
    o   Narrow and prioritize explanations
    o   Deepen thinking to a root cause
    o   Validating root causes with data
    o   Incorporating external reviews into root cause analysis (if available).
5. Describe the purpose and how to use various dialogue protocols and tools that support root cause analysis (e.g., norms, circle map, why. . . because form).
6. Facilitate the following steps in root cause analysis:
    o   Focusing on a priority performance challenge or two or more closely related priority performance challenges.
    o   Consider school/district context (process/perception information)
    o   Brainstorm explanations for performance challenges
    o   Categorize and classify explanations
    o   Narrow and prioritize explanations
    o   Deepen thinking to a root cause

- o Validating root causes with data
- o Incorporating external reviews into root cause analysis (if available).

7. Identify parts of root cause analysis where planning teams can "get off track" and how to get them back on track.
8. Evaluate facilitation strategies and differentiate between helpful and non-helpful facilitation as part of root cause analysis.
9. Plan for a root cause analysis with a district or school-based team.

Unified Improvement Planning Handbook
# Root Cause Analysis Excerpt

Step Four: Determine Root Causes
This step involves identifying the underlying causes behind the priority performance challenges identified in the prior analysis step. Root causes are statements that describe the deepest underlying cause, or causes, of performance challenges. They are the causes that, if dissolved, would result in elimination, or substantial reduction, of the performance challenge(s). Root causes describe why the performance challenges exist. They are the things that most need to change and can change. Root causes are not student attributes (such as poverty level or student motivation), but rather relate to adult behavior. Furthermore, the root cause should be something within the school or district's control.

Root causes become the focus of major improvement strategies. This is why it is critical for root causes to reflect the magnitude of the performance challenge faced by the school or district. For example, if the school or district performance challenges impact 85% of the students in the school, the absence of appropriate intervention strategies for 4th grade girls in writing is not likely to be an appropriate root cause.

A cause is a "root" cause if: "1) the problem would not have occurred if the cause had not been present, 2) the problem would not reoccur if the cause were corrected or dissolved, and 3) correction or dissolution of the cause would not lead to the same or similar problems," (Preuss, 2003).

How to identify root causes. One way to determine root causes includes the steps described below. In general, the process for determining root causes can be thought of as a funnel, starting with the broadest thinking possible about causes related to each prioritized performance challenge and systematically narrowing and deepening the collective understanding until the team arrives at a root cause.
- Step 1: Focus on one or a couple of closely related performance challenges (e.g., 4th grade math achievement and growth have both declined over the past three years).
- Step 2: If an external review has been done in the school/district, consider the findings of the review. If not, consider the categories of factors that typically cause performance challenges in a school or district.
- Step 3: Brainstorm possible explanations (causes) for the priority performance challenge(s). This is the time to encourage team members to think outside of the box and to get all of their thoughts on the table about what may have caused the challenge.
- Step 4: Group like causes together (or categorize the explanations).
- Step 5: Apply criteria to narrow the explanations to those that are actionable. This includes removing those explanations that are outside the control of the school or district.
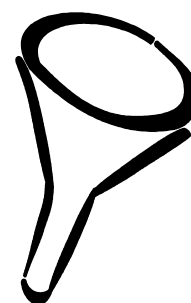
- Step 6: Deepen the thinking to ensure the identified causes are "root" causes. One tool to help planning teams deepen their thinking is the "Why. . . because" process.
- Step 7: Once the team believes they have identified a *root cause*, they should verify their root cause with other data sources. This step is critical because sometimes explanations that seem to reflect the best current thinking of the planning team may not hold up once additional data is reviewed. Additional data sources typically include types of data other than student performance data.

While it is described as a series of steps, the process of identifying a root cause is iterative – planning teams may need to move back and forth among the steps in the process. For example, the team may be applying criteria to narrow their explanations when they realize that they had not identified an important explanation in the earlier brainstorming step.

Once root causes have been identified and verified (with other data sources) they can be documented in the Data Analysis Worksheet. In the data narrative, for each priority performance challenge, teams must identify the root cause(s), and explicitly reference the additional data that was reviewed to verify the root cause(s). The narrative should also describe the processes in which the planning team engaged to identify the root cause(s) and who participated.

UNIFIED IMPROVEMENT PLAN QUALITY CRITERIA (SCHOOL LEVEL)

EXCERPTS

Required Element *(definition)*	Criteria

Priority Performance Challenges
 	
Specific statements about the school's performance challenges (not budgeting, staffing, curriculum, instruction, etc.), with at least one priority identified for each performance indicator where the school did not meet federal, state and/or local expectations.
	• Identifies priority performance challenges based on analysis of negative performance trends that are of the appropriate magnitude given the overall performance of the school.
	• Priority performance challenges describe the strategic focus for the school considering every sub-indicator for which the school did not meet expectations.
	• Identifies at least one priority performance challenge for every indicator (i.e., achievement, growth, growth gaps, post-secondary/workforce readiness), for which the school did not meet state expectations (e.g., approaching, did not meet on SPF). *Note: Priority performance challenges do **not** need to be identified for **every** sub-indicator (e.g., math achievement, ELL student growth in reading) for which the school did not meet expectations unless it is a specific program requirement.*
	• If they are closely related, summarizes multiple trends to identify priority performance challenges. Performance challenges may also cut across performance indicators, for example describing both achievement and growth.
	• Specifies challenges that take into account analysis of data, including analysis at a more detailed level than that presented in the SPF report. For example:
	    ○ for cohorts of students (e.g.,3rd grade in one year, 4th grade in the next year, 5th grade in the third year);
	    ○ within a grade level over time (e.g., consistently not meeting expectations in 4th grade mathematics for three years);
	    ○ within a disaggregated group of students;
	    ○ within a sub-content area (e.g., number sense in mathematics).

Root Causes *Statements describing the deepest underlying cause, or causes, of performance challenges, that, if dissolved, would result in elimination, or substantial reduction, of the performance challenge(s).*	• Identifies at least one root cause for each priority performance challenge. The same root cause may apply to multiple priority performance challenges, and should be listed next to each priority performance challenge to which it applies. • Specifies "causes" the school can control (e.g., the school does not provide additional support/interventions for schools improvement) rather than describing characteristics of students in the schools (e.g., race, poverty, or student motivation). • Reflects analysis of multiple types of data (in addition to performance data and including local data sources) in the identification and verification of root causes. • Root causes reflect the appropriate magnitude given the overall performance for the school. For example, a school that does not meet most or all the state performance indicators/sub-indicators, should identify root causes that are broader and describe issues in the overall system.

Unified Improvement Planning Processes
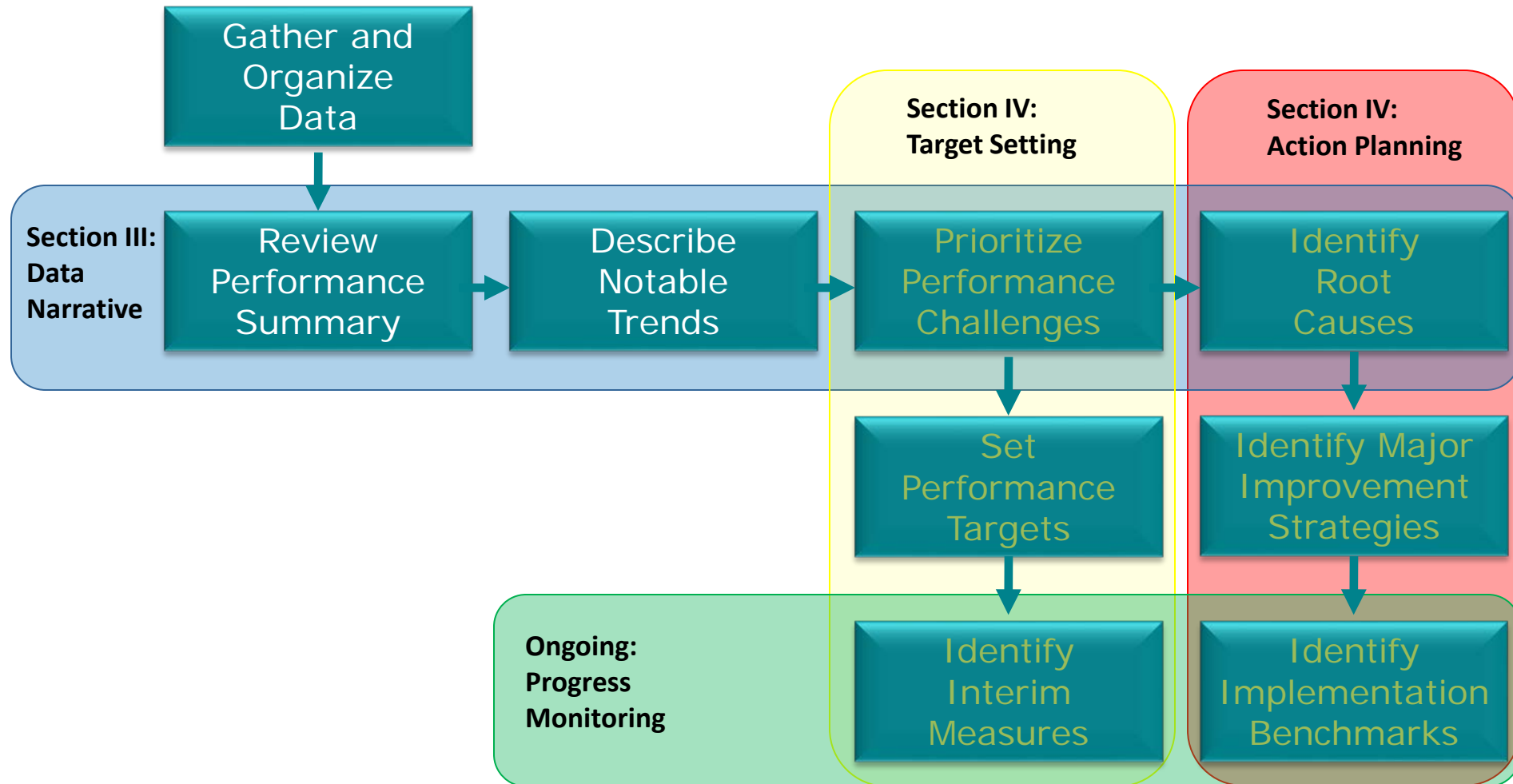
Data Narrative Outline

Data Narrative Elements	
Description of School and Process for Data Analysis	• A brief description of the school to set the context • The general process for developing the UIP • A description of who participated in the development of the schools' plan
Review of Current Performance	• The school accountability status (plan type assignment) • Identification of the indicators and sub-indicators where school performance did not meet state and federal expectations Indicators and sub-indicators where school performance did not meet local expectations • Reflection on how current performance compares to the targets established in the prior year's plan and why (also captured in the Progress Monitoring of Prior Year's Performance Targets worksheet) • Description of the magnitude of over-all school performance challenge
Trend Analysis	• Description of what data was analyzed (including local data sources, metrics and measures) in identifying performance trends • Notable performance trends (also captured in the Data Analysis Worksheet) • How the team determined which trends were notable (e.g. to what were each of the school performance trends compared?)
Priority Performance Challenges	• The performance challenges that are the highest priority to address immediately (notable trends or combination of trends), no more than 305 • The rationale for the selection of "priority" performance challenges (may include the process that was used to prioritize the performance challenges) and how they address the magnitude of the school's overall performance challenges
Root Cause Analysis	• Root cause(s) associated with each priority performance challenge (also captured in the Data Analysis Worksheet) • How the root causes were identified • Evidence that the root cause was verified through the use of additional data and what additional data was reviewed to validate the root causes • A description of the selection process for corresponding major improvement strategies

Setting Norms Protocol

Purpose

Norms are ways of working together that help groups be more thoughtful and productive. They fall into two categories: procedural and interpersonal. Once norms have been established, it is important that the entire group, not just the facilitator, takes responsibility for making sure that the norms are respected, and for redirecting the group when they are not. Norms can change and evolve as the group develops and matures.

Areas to Consider When Setting Norms

- **Logistics:** meeting time, place, duration, and frequency
- **Timeliness:** start time, finish time, lateness, and attendance
- **Courtesy:** listening, interruptions, equal participation, dealing with disagreements, respect, empathy, and sharing the workload
- **Decision-making Process:** How will we make decisions? Reach agreements? How will we show agreement?
- **Workload Assignment:** How will work be assigned? How will conflicts with existing workloads be settled?
- **Setting Priorities:** How will we discharge responsibility for on-time completion and equal distribution?
- **Enforcement of Norms:** How will we make sure the norms are followed?

Activity for Setting Norms

1. The facilitator passes out four to six post- it notes to each team member.

2. Each person writes a norm, a statement about how they want the group to work together, on the post-its.

3. The team shares its individual notes and divides them into the two categories – procedural norms and interpersonal norms.

4. Within each category, group the suggestions that are similar (For example, *take turns speaking* and *make sure everyone speaks* should be grouped together).

5. Give a name to the norm for each group (From the example above, the norm could be "make sure everyone is heard").

6. The group discusses the norms that have been suggested and checks to see whether or not they are in agreement. The group should reach consensus on the ones it accepts.

HINTS

- The team will work with greater commitment if they themselves generate their norms.
- Post the norms during each meeting.
- Add new norms as the team develops and new situations arise.

Norms

The following statements describe agreements for participation in learning experiences provided by CTLT. They are intended to allow all participants to make the most of their time.

- Be present, participate, and engage fully.

- Listen to learn, limit side conversations.

- Monitor personal technology (turn cell phones off/on vibrate, close laptops during discussion).

- Pay attention to signals to rejoin the whole group – hand-raising.

- Move and engage as a key learning strategy.

- Practice and self-organize table groups; name a facilitator, recorder, reporter and time keeper.

- Use effective communication and exploratory language: paraphrase, clarify, summarize, question, and invite thinking.

- Suspend judgment, live in curiosity.

- Reflect continuously, complete evaluations and reflections.

- Provide feedback and post questions on the "Parking Lot."

- Pay attention to what has meaning for you.

- Commit to follow-through.

UIP Handbook
Priority Performance Challenges Excerpt

Step Three: Prioritize Performance Challenges
Prioritizing Performance Challenges may be the most critical step in the entire planning process, as it sets the tone for each of the subsequent steps. It involves the improvement team identifying which of their notable trends represent strengths to build upon, and which represent challenges that need immediate attention for improvement. Priority performance challenges are drawn from trends that are a concern for the school/district and should be specific statements about *student* performance. They provide the strategic focus for improvement efforts. Performance challenges are *not* what caused the performance, action steps that need to be taken, or concerns about budget, staffing, curriculum or instruction. Performance challenges do not describe adult behavior.

> ***Helpful Reminder:***
> Priority performance challenges are focused on student-level data. At this stage in the planning process, resist the temptation to jump straight into identifying adult actions. Prioritizing clear performance challenges now will help the improvement team to select more effective actions later.

While schools may identify as many priority performance challenges as they deem appropriate, it is recommended that the ***three or four most important*** are identified. **Priority performance challenges** should focus planning efforts on the performance indicator/sub-indicator areas in which the school failed to meet state or district expectations. In selecting priority performance challenges, planning teams should also consider areas where the targets set for the prior year were not met.

Priority performance challenges come from negative trend statements. However, it is important to note that a single priority performance challenge may combine more than one negative trend statement (e.g., both the growth and achievement of 4th grade English language learners in math may point to this as a priority performance challenge). Priority performance challenges should retain the specificity of the trend statements on which they are based.

How to determine the appropriate level for a priority performance challenge. Performance challenges may be identified at different levels of aggregation within and across each content area (e.g., overall, grade-level, standard/sub-content area level, disaggregated group level). The level of the priority performance challenge should reflect the magnitude of the school or district performance challenges overall. For example, priorities may be identified:

- At the level of overall school performance across multiple content areas (e.g., reading and writing).
- At the level of overall school performance for a single content area (e.g. math).
- At an individual grade level for a single content area (5th grade science) or across multiple content areas (The percent of 7th grade who were proficient in writing and reading has been stable over the past three years (~45%) but well below minimum state and federal expectations).

- At the standard or sub-content area (e.g., the percentage of fifth grade students proficient or above on number sense has declined from 50% to 43% to 30% over the last three years while student achievement in other standard areas has remained stable).
- For a disaggregated group of students within a single content area and grade level, within a single content area across multiple grade levels, across multiple content areas within a single content area, or across multiple content areas and grade levels (e.g., English language learners across all grade levels have had stable growth in writing with median growth percentiles of 30, 32, 31, over the past three years at a level well below the minimum state and federal expectation of 55).

To determine the appropriate level of a priority performance challenge, the planning team must first consider the magnitude of the school or district performance challenge overall and describe it in the first step of analysis. Are most of the students in the school impacted by the school's performance challenges or is there a subset of the entire student body that is affected? Do the school's performance challenges focus primarily on one content area or do they cut across content areas? Once they have considered the magnitude of the challenge overall, the planning team should continue to disaggregate data (both by content and by student group) until little or no variation in performance is found.

Consider the following example. A school-based team determines that their overall performance challenge seems to be within individual grade levels rather than cutting across grade levels and within a single subject area, math. A school-based team identifies a challenge related to performance in math for the 5th grade (i.e., the median growth percentile for 5th graders in mathematics has declined from 40 to 35 to 28 over the last three years and remains below the minimum state expectation of 55). Next, they decide to examine 5th grade math performance at the standard- and sub-content level. However, they see no variation by standard (i.e., percent of students scoring proficient and above in each of the standard areas is consistent, ranging from 30% to 35%). Next, the team looks at the 5th grade math data by disaggregated groups (i.e., growth of English language learners, minority students, students qualifying for free/reduced lunch) and observes that all groups are similar to the overall 5th grade growth. In this example, the team prioritizes the overall decline in 5th grade math; the performance challenge is not aimed at the standard-level performance or at a particular disaggregated group, but is 5th grade students overall in math.

Priority Performance Challenge Examples	Non-Examples
• For the past three years, English learners (making up 60% of the student population) have had median growth percentiles below 30 in all content areas, substantially below the minimum state expectation of 55.	• No differentiation in mathematics instruction when student learning needs are varied.
	• Decline in writing achievement over the last three years.
• The percent of fifth grade students scoring proficient or better in mathematics has declined from 45% three years ago, to 38% two years ago, to 33% in the most recent school year (below the minimum state expectation of 71% and the overall school-level performance of 65%), and median growth percentiles in 5th grade math have remained stable between 30 and 22 during the same time period.	• Hispanic male performance in math at the elementary level (when district performance for math overall is substantially below minimum state expectations and Hispanic boys only make up 10% of the student population).

How to prioritize performance challenges. The process used and an explanation of why certain performance challenges were identified as the priority must be documented in the Data Narrative. One approach to prioritizing performance challenges includes the following steps.

- *Step 1:* Review the performance indicator areas where a priority performance challenge must be identified (any of the four performance indicators that the school or district did not meet at least minimum federal, state, or local expectations) and the magnitude of the overall school or district performance challenge.
- *Step 2:* Within the focus performance indicator areas, consider all negative trends.
- *Step 3:* Focus the list; determine which negative trends should be combined because they are similar or reflect different ways to measure the same performance challenge. In some cases trends will need to be combined across different performance indicator areas.
- *Step 4:* Begin to identify notable trends that pop out or rise to the top as being most urgent to act on (represent some of the largest challenges faced by the school/district).
- *Step 5:* Do a reality check (a preliminary and non-binding check with the team) to see which

REAL Criteria

Readiness
· Is this problem keeping us from moving to desired next steps? Would solving this problem build on existing momentum in our school?
· Are necessary resources available or obtainable?
· Do we have staff buy-in?

Endurance
· Do we believe that success will lead to significant and systemic change?
· Are we confident that this problem is not personality- or individual-driven?

Accountability
· Would solving this problem support our vision? Mission?
· Can we clearly describe how we believe this problem is negatively impacting performance?

Leverage
· If the problem is solved, what is the anticipated impact on the system?
· Is the performance challenge supported by data?
· Might solving this problem create a positive "ripple effect" in the school?

trends might rise to the level of a priority performance challenge with each person indicating current preferences (one option is to use dot voting with team members "spending" all of his/her dots).

- *Step 6:* Evaluate the degree to which the proposed priority performance challenges reflect the magnitude of the overall school/district performance challenge.
- *Step 7:* Achieve consensus on the top three to five priorities by applying the REAL criteria and then engaging in additional conversation as needed (e.g., through cycles of proposal(s) made by someone in the group, discussion/modification of the proposal).

Priority performance challenges can be documented (in bullet form) in the Data Analysis Worksheet. In the data narrative, planning teams must describe the priority performance challenges that were selected the process that was used to prioritize performance challenges, and what makes the priority performance challenges that were selected more important to address immediately.

Equitable Distribution of Teacher Data

Purpose:

- Help districts and schools look at their human capital assets across schools and even statewide.
- Meet the "Equitable Distribution of Teachers" requirements in ESEA. Districts must consider the distribution of teachers by examining teacher qualifications and experience with school attributes (including student poverty and minority percentages).
- Support districts as they engage in root cause analysis as part of Unified Improvement Planning.

Accessing Equitable Distribution of Teacher Graphical Displays (schoolview.org)

1.　　Go to: http://www.schoolview.org
2.　　Click on "SchoolView Data Center"; select your district from the right hand navigation.
3.　　Click on the "Staff" tab, and then select the "Teacher Equity" sub-tab. This will provide you will the summary level data.
4.　　To select the detail level, click on the drop down next to "Summary" and you will get the "Detail" level option.
5.　　Ensure "experience" is selected
6.　　Choose "poverty" or "minority"
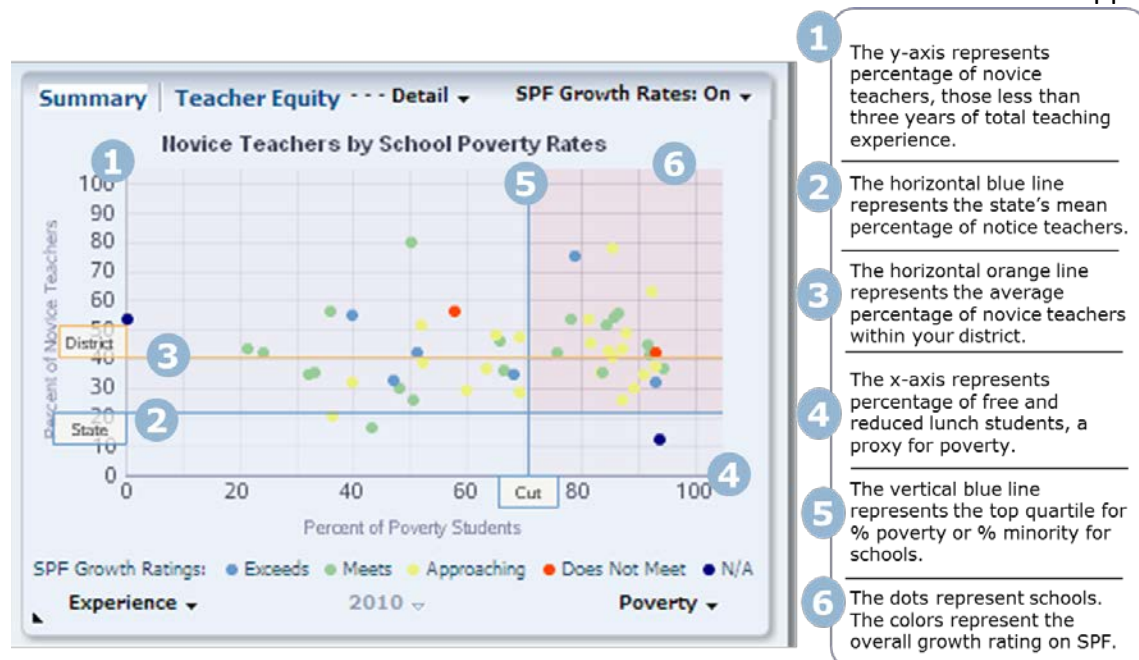
School Level Metrics:

- Percent of Novice Teachers
- Percent of students qualifying for free/reduced lunch
- Percent minority students
- School's SPF Growth Rating

Comparison Points:

- State average percent novice teachers for schools
- Top quartile of percent poverty for elementary schools
- Top quartile of percent minority for schools
- State expectations for growth

Schoolview.org Graphical Displays

The graphic below applies a performance lens to the teacher equity data. This display quickly identifies schools with similar teacher and student demographics that may be achieving different results. It also allows trends across schools within the district to become apparent.

1 The y-axis represents percentage of novice teachers, those less than three years of total teaching experience.

2 The horizontal blue line represents the state's mean percentage of notice teachers.

3 The horizontal orange line represents the average percentage of novice teachers within your district.

4 The x-axis represents percentage of free and reduced lunch students, a proxy for poverty.

5 The vertical blue line represents the top quartile for % poverty or % minority for schools.

6 The dots represent schools. The colors represent the overall growth rating on SPF.

Quadrants: The schools in the upper right-hand quadrant have a high percentage of novice teachers (y-axis) compared to the state mean (horizontal blue line) and are serving a high percentage of free and reduced lunch or minority students (depending on the x-axis that you select using the toggle at the bottom right-hand of the graph). The graphic intentionally focuses attention on this quadrant. The yellow and red dots within this area represent schools that are approaching (yellow) or not meeting (red) academic growth expectations as defined by the School Performance Framework. The green and blue dots in the lower right-hand quadrant represent schools that are meeting (green) or exceeding (light blue) growth expectations.

Schools within this quadrant have a **high** percentage of novice teachers and are serving a **lower** percentage of FRL students.

Schools within this quadrant have a **low** percentage of novice teachers and are serving a **lower** percentage of FRL students.
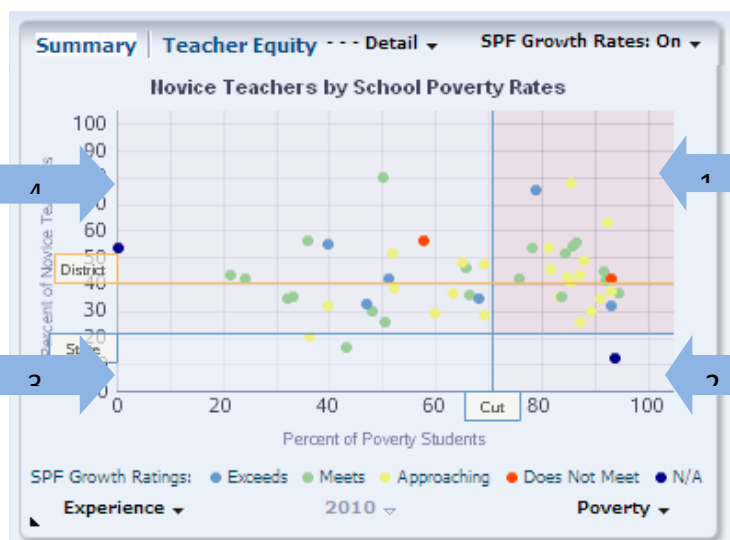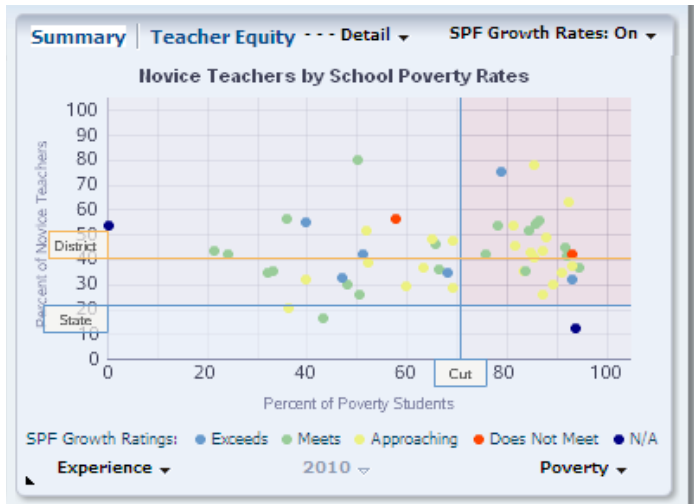
Schools within this quadrant have a **high** percentage of novice teachers and are serving a **high** percentage of FRL students. The graph focuses attention on this quadrant.

Schools within this quadrant have a **low** percentage of novice teachers and are serving a **high** percentage of FRL students.

Practice

Use the equitable teacher distribution graph below to answer the questions that follow:

Question	Answer
1. How does the experience level of teachers within this district compare to the state overall?	
2. Are patterns evident in the relationship between the percent of novice teachers in the school and the poverty level of students in the school? Describe any patterns.	
3. Do any schools "jump out" at you because they are high performing? Describe teacher experience and student poverty at the high performing schools.	
4. Do any schools "jump out" at you because they are low performing? Describe teacher experience and student poverty at the low performing schools.	
5. Are patterns evident in the SPF growth ratings for the school and the experience level of the teachers? Between the SPF growth ratings for the school and the poverty level of students within the school? Describe any patterns.	
6. Are there any schools that you'd want to investigate further? Why?	

Questions to Guide Analysis of Your Equitable Distribution of Teacher Data

Question	Answer
1. How does the experience level of teachers within this district compare to the state overall?	
2. Are patterns evident in the relationship between the percent of novice teachers and the poverty level of students in the school? Describe any patterns.	
3. Do any schools "jump out" at you because they are high performing? Describe teacher experience and student poverty at the high performing schools.	
4. Do any schools "jump out" at you because they are low performing? Describe teacher experience and student poverty at the low performing schools.	
5. Are patterns evident between the SPF growth ratings for the school and the experience level of the teachers? Between the SPF growth ratings for the school and the poverty level of students within the school? Describe any patterns.	
6. Are there any schools that you'd want to investigate further? Why?	

TELL Survey Basics

Background:

The Teaching, Empowering, Leading and Learning (TELL) Colorado survey is an anonymous biennial statewide survey of licensed, school-based educators to assess teaching conditions at the school, district and state level. The survey results are intended to support school and district improvement planning and to inform policy decisions. Participation is voluntary and anonymous. Every school that reaches the minimum response rate threshold of 50% (and a minimum of 5 respondents) will be able to use its own data in school improvement planning.

TELL Colorado is administered every other year. The 2013 TELL Colorado survey was administered over a five-week window (February 6 - March 11) in 2013. The 2013 TELL Colorado was the third statewide survey of educators in Colorado.

Purpose:

- Provide schools, districts and state policymakers with data on teaching and learning conditions.
- Provide data to support school improvement efforts (root cause analysis for unified improvement planning) and inform state level education policy.
- The data is NOT intended to be used to negatively sanction or criticize individuals.

Accessing TELL Colorado Survey Data

Go to: www.tellcolorado.org

Click on: Survey Results

Select your district name. If school-level results are available, the name(s) of the schools will appear below the district name.

Three different reports/views of the data are available. You can click on the icon for each report to bring up a web-view of the report. Reports can also be downloaded as Excel files or as a PDF (depending on the report).

Subject:

In general, data was collected from all licensed, school-based educators including teachers and principals. Teachers and principals in charter schools are included and do not need to be licensed to participate. Participation is voluntary and anonymous. Only teacher results are reported at the school and district levels to maintain anonymity. Principal results are reported at the state level only. All districts were invited to participate and encouraged to support participation by their teachers and principals.

Focus:

The TELL survey collected data about the following topics (or constructs):

- **Time:** Available time to plan, collaborate and provide instruction and barriers to maximizing time during the school day.

- **Facilities and Resources:** Availability of instructional, technology, office, communication, and school resources to teachers.

- **Community Support and Involvement:** Community and parent/guardian communication and influence in the school.

- **Managing Student Conduct:** Policies and practices to address student conduct issues and ensure a safe school environment.

- **Teacher Leadership:** Teacher involvement in decisions that impact classroom and school practices.

- **School Leadership:** The ability of school leadership to create trusting, supportive environments and address teacher concerns.

- **Professional Development:** Availability and quality of learning opportunities for educators to enhance their teaching.

- **Instructional Practices and Support:** Data and supports available to teachers to improve instruction and student learning.

Reports/Views, Metrics and Comparison Points:
Reports/views are available at the district and school level if the minimum response rate was achieved. Reports/views include aggregate metrics for responses to a number of individual items for each construct.

Report/View	Metrics	Comparison Points
Summary Results Presented as %s. [Downloadable as an Excel file from tellcolorado.org]	For each item the following metrics are provided: • The percent of educators in the district (school) rating their level of agreement as agree or strongly agree (for items for which level of agreement was being rated).	For each item the following metrics are provided: • The percent of educators in the state rating their level of agreement as agree or strongly agree. At the school level: • Percent of teachers in the district and in other Colorado schools in the state at the same level (elementary, middle high) rating their level of agreement with the item as strongly agree or agree. • The percent of teachers who responded at the state, district and school level.
Summary Comparison Results Presented as %s. [Downloadable as an Excel file from tellcolorado.org]	For each item the following metrics are provided: • The percent of educators in the district (school) rating their level of agreement as agree or strongly agree in 2013. • The percent of educators in the district (school) rating their level of agreement as agree or strongly agree in 2011.	Comparison between 2013 and 2011 responses for each item.
Detailed Results Represented as a bar graph. [Downloadable as a PDF from tellcolorado.org]	**District and School Level** For each item the following metrics are provided: • Total number of responses in the district (school). • Number of "don't know" responses in the district	**District and School Level** For each item the following comparison points are provided: • Total number of responses in the state. • Number of "don't know" responses in the state.

Report/View	Metrics	Comparison Points
	(school). For items asking teachers the degree to which they agree with a certain statement: • Percent of teachers in the district (school) rating their level of agreement with the item as: strongly disagree, disagree, agree, strongly agree (for items for which level of agreement was being rated). For items with other response categories: • For some items related to "time", how much time devoted to different activities during an average week. • For some items related to professional development, the percent of teachers indicating each area that they need professional development to teach students more effectively. • For new teachers: the percent indicating they have received different kinds of supports, the percent that indicated they engaged in various activities with their mentors the percent rating the degree to which support received from mentors influenced practice in different areas, and the characteristics of their relationship with their mentor.	• Percent of teachers in the state rating their level of agreement with the item as: strongly disagree, disagree, agree, strongly agree (for items for which level of agreement was being rated). **School Level Only:** • Total number of responses in the district and other schools in the state at the same level (elementary, middle, high). • Number of "don't know" responses in the district and other schools in the state at the same level (elementary, middle, high). For items asking teachers the degree to which they agree with a certain statement: • Percent of teachers in the district and other schools in the state at the same level (elementary, middle high) rating their level of agreement with the item as: strongly disagree, disagree, agree, strongly agree. For items with other response categories: • The percent of teachers in the state, district and other schools in the state at the same level (elementary, middle, high) selecting each response.

Report/View	Metrics	Comparison Points
Scatterplot Graph of all schools in the district with minimum response rate. [Provided in an Excel file to district superintendent]	The scatter plot represents schools with the following axis • Vertical (Y): 2013 rate of agreement (average percent of teachers responding agree/strongly agree on every item with this rating scale). • Horizontal (X): Change in rate of agreement between 2011-2013. • Color indicates school level (elem, middle, high).	• State average rate of agreement for 2013. • State average change in rate of agreement between 2011-2013.
Growth Heat Map Table of agreement rates by school for each school in the district achieving the minimum response rate. [Provided in an Excel file to district superintendent]	• 2013 rate of agreement (average percent of teachers responding agree/strongly agree) overall, as a composite measure by construct, for each item. • Change in rate of agreement between 2011-13 overall, as a composite measure by construct, for each item.	• 2013 rates of agreement are color coded from red to green based on results relative to all other in the chart schools, with red indicates a rates relative lower than other schools and green indicating rates relatively higher than other schools. • Each change in rate or agreement is accompanied by a green, yellow, or red arrow indicating positive growth, no change, or negative growth.
2013 Heat Map Similar to the Growth Heat Map this is a table of agreement rates for schools that did not meet the minimum response rate for 2011 but achieved the minimum response rate for 2013. [Provided in an Excel file to district superintendent]	• 2013 rate of agreement (average percent of teachers responding agree/strongly agree) for each survey construct and item that included teachers rating their level of agreement.	• 2013 rates of agreement are color coded from red to green based on results relative to all other schools in the chart, with red indicates a rates relative lower than other schools and green indicating rates relatively higher than other schools.

Additional Support:
- A facilitator's guide is available to help schools unpack their own data.
- Schools and districts that have access to their own data can download reports (see figure) and spreadsheets.
- Contact Lisa Medler (medler_l@cde.state.co.us) with additional questions.

TELL Terminology:
- Teaching Conditions – the systems, relationships, resources, environments and people in the school that affect teachers' ability to teach (or learn) at a high level.

- Construct – a grouping of several specific questions, all dealing with the same topic.

- Item – a specific individual question.

- Rate of Agreement – the percentage of people who said they agreed or strongly agreed that a condition was in place.

- Neither Agree nor Disagree – the percentage of people who did not feel the condition was or was not in place. They could be ambivalent, they may not have understood the question, or they may not have experience in that arena.

Resources available from CDE to support Root Cause Analysis

Tool	Description
English Language Learners Walk Through and Program Review Tool	The Office of Language, Culture and Equity charged a task force to develop a tool for schools, districts and other agencies to address equitable access to instruction for all English learners. It is recommended that the Walk Through and Program Review Tool be used in a collaborative fashion involving classroom teachers, school and district leaders, and Colorado Department of Education leaders.
Positive Behavior Implementation Support Framework	The PBIS framework relies on data to make effective and efficient determinations of the quality of implementation. The Benchmarks of Quality (BoQ) and Schoolwide Evaluation Tool (SET) are utilized to monitor fidelity of universal school-wide PBIS implementation. Additional tools are also available to monitor more targeted and intensive level support systems. The PBIS framework also provides training and support on utilization of a problem solving process to support intervention planning for students.
Policies and Practices Related to Student Failure and Dropping Out: Tools and Resources	The format of the inventory identifies a policy or practice, the potential negative effect on students, and possible alternatives to the policy or practice. It allows the user to identify whether or not the policy or practice is a perceived problem and what action should be taken locally. Local administrators and school board members are encouraged to use this inventory to gain information to help design local plans for at-risk student services.
RtI Implementation Rubrics	The RtI Implementation Rubrics are designed to assist districts, schools, and educators with the implementation of RtI. The tools provide the means to reflect on policies and practices from the classroom level, to the school district, and state level in order to continually improve outcomes for students. These tools are intended to be used statewide and provide needed support in a continuous improvement cycle. The rubrics can also assist districts in their work toward accomplishing their goal of systemic change for increased student achievement.
Self-Assessment for Building a Healthy Human Capital System in Schools and Districts	This instrument is designed for districts and schools to identify their readiness stage related to building a healthy human capital system and develop strategies to address needs, or refine best practices.
TELL Colorado	The Teaching, Empowering, Leading and Learning (TELL) Colorado Survey is an online, anonymous survey of all licensed public school educators in Colorado's public schools, designed to garner Colorado's public school educators' perception of their school environments. TELL Colorado was administered in 2013. The survey will be administered again in 2015.
Assessment Review Tool	The Assessment Review Tool is designed to help Colorado educators rate an assessment's potential for measuring student

	academic growth aligned to the Colorado Academic Standards. This tool helps measure the extent to which an assessment does the following:
	
	    • Aligns to the Colorado Academic Standards
	    • Includes rigorous scoring criteria
	    • Is fair and unbiased
	    • Provides opportunities for learning

Inventory of Data Sources other than Student Performance Data

MEASURE	REPORTS/ DATA VIEWS	Administration LEVEL(S)	WHEN AVAILABLE	SUBJECT	FOCUS	METRICS	QUESTIONS
Example: TELL Survey	1) Summary Results by Question. 2) Summary Comparison Results (for last 2 administrations). 3) Detailed Results by question. 4) Scatter plot	Administered statewide. Results available at school and district levels if 50% participation threshold is met.	Results of spring 2013 administration available now. Administered again in the 2014-15 school year.	Teachers and Principals (only state level).	Educators' perceptions of the teaching and learning conditions in their school.	% of teachers agreeing or strongly agreeing with statements about the teaching and learning conditions in their school.	What are teacher perceptions of: time available for various instructional activities, the facilities/resources in the school, community/parent communication and influence, policies and practices related to student conduct/safety, teacher involvement in decision-making, their school's leadership, availability and quality of PD, and supports available to improve instruction and student learning?

Developed in partnership by CTLT and Alpine Achievement.

Inventory of Data Sources other than Student Performance Data

LEGEND

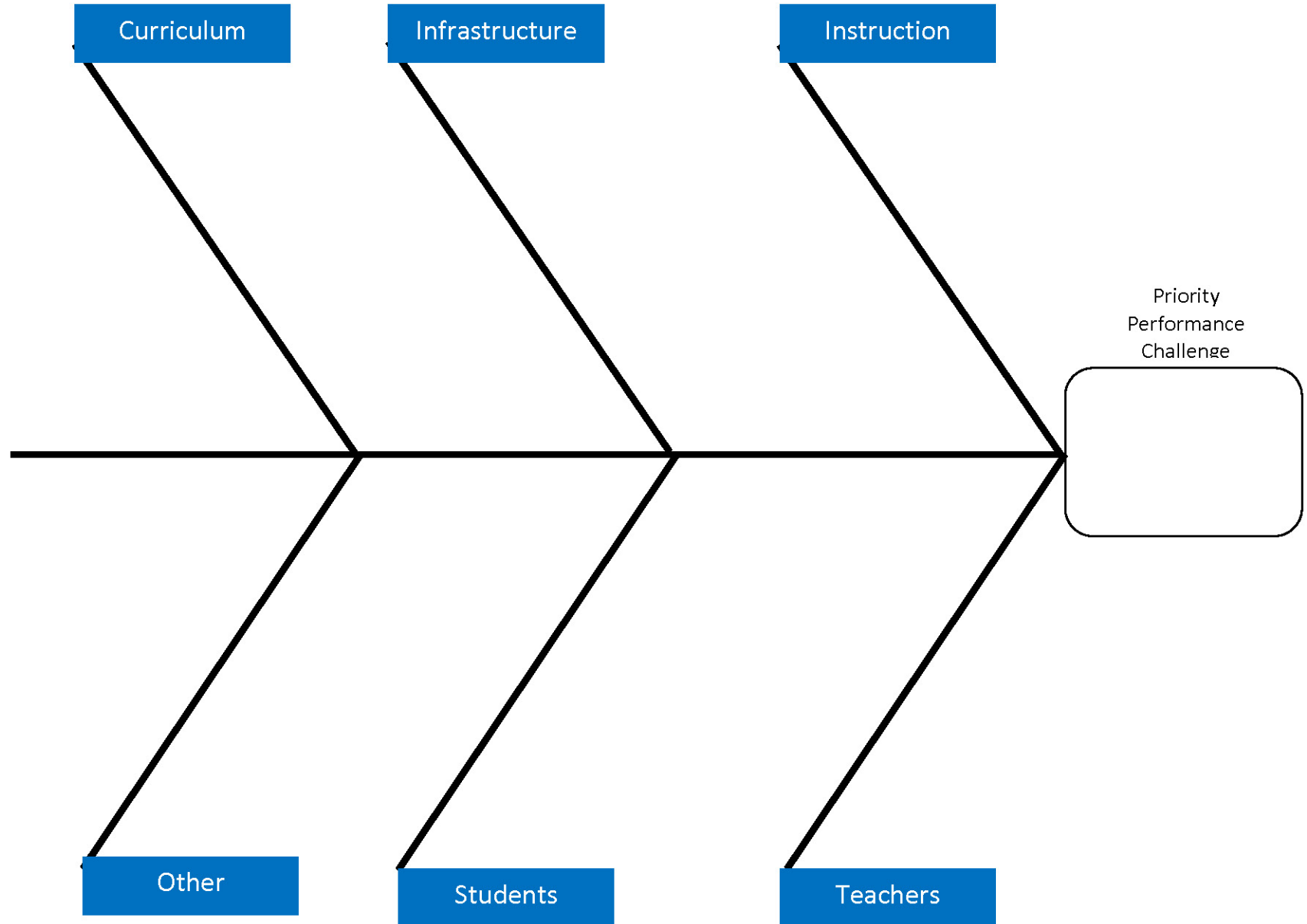|	
MEASURE	Name of instrument used to collect the data (e.g. student safety survey, classroom walkthroughs, etc.) .
REPORTS/ VIEWS	List of data views or reports that are available.
Admin LEVEL(S)	Level at which the measure is administered (district, school, classroom).
WHEN AVAILABLE	When (what date or dates) will the data be available.
SUBJECT	Description of who the data is being collected from and/or about (e.g. 6th grade classrooms, students on IEPs, all math teachers, 3rd grade parents, etc.).
FOCUS	What is the focus - what is being measured?
METRICS	The statistics that will be reported (satisfaction level, frequency, etc.).
QUESTIONS	What questions this data will help team members to answer (e.g. To what degree has the intervention been implemented).

Curriculum

Infrastructure

Instruction

Priority
Performance
Challenge

Other

Students

Teachers

Using a Tree Diagram to Brainstorm within Categories

Purpose: A tree diagram can be used to structure the thinking of a group when they want to brainstorm within pre-defined categories. Within the context of Unified Improvement Planning, this strategy can structure team brainstorming about explanations for their priority performance challenges.

Materials: Large paper, flip chart page, or dry erase board; markers, pens, and sticky notes.
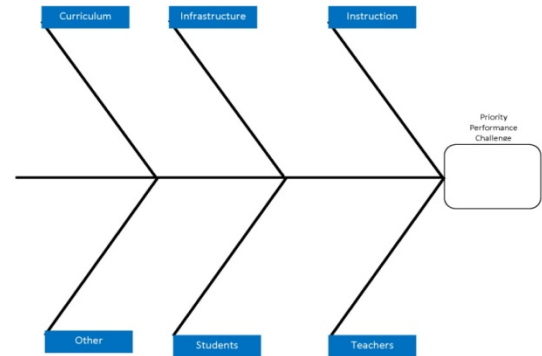
Steps:

1. Clarify the question that will focus the brainstorming activity
The question that will focus brainstorming activity when using this strategy to brainstorm explanations for priority performance challenges should be some variation of: Why do we have the performance challenges we have identified as a priority? What adult actions help to explain this pattern of performance?

2. Identify the pre-defined categories the team will use
Several different options are available to use as the "pre-defined" categories within which to brainstorm causes of school or district performance challenges. These include:

- Levels of Root Causes (Preuss, 2003)
- Marzano Factors (various Marzano publications)
- Causal Theories (Wellman & Lipton, 2012)

Teams can select from these options, or come up with their own categories.
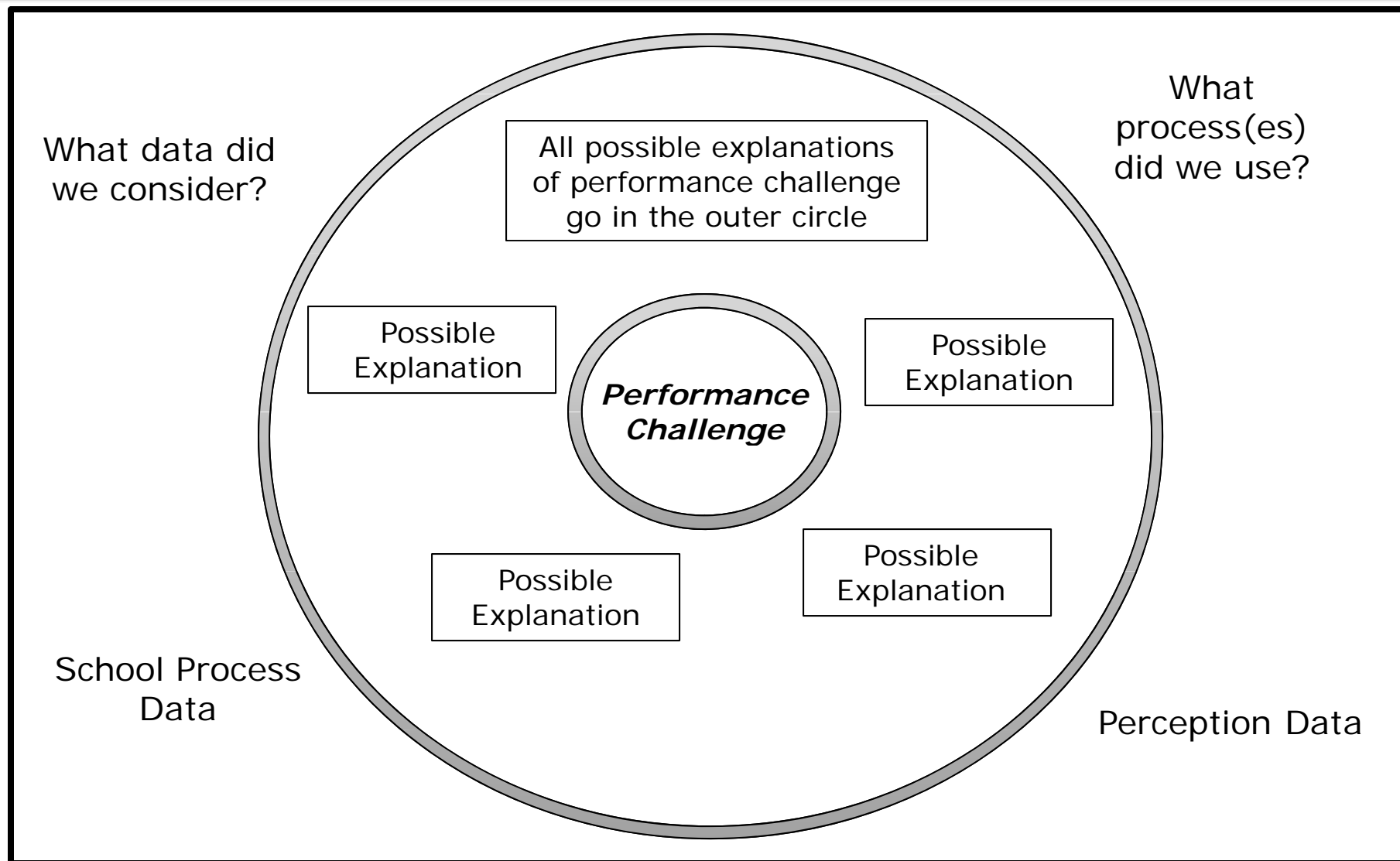
3. Set up the "Tree Diagram"
Once categories have been determined, the team can develop the Tree Diagram that they will use to brainstorm. This can be drawn on a large sheet of paper, dry erase board, flip chart page, etc. See example on this page. Each pre-defined category should be added to a branch of the tree diagram. One branch should be reserved for "other."

4. Brainstorm within categories
Each team member independently captures their ideas on sticky notes (one idea per sticky note) then posts them on the "branch" of the tree where he/she believes they belong.

5. Summarize within categories
After each team member has placed their ideas within the categories, then the group should create a short description summarizing the explanations for each category.

What data did
we consider?

What
process(es)
did we use?

All possible explanations
of performance challenge
go in the outer circle

Possible
Explanation

Possible
Explanation

*Performance
Challenge*

Possible
Explanation

Possible
Explanation

School Process
Data

Perception Data

Circle map used with permission from Thinking Maps, Inc. Specific training required before implementing Thinking Maps.
For more information, visit www.thinkingmaps.com.

Using a Circle Map to Brainstorm and then Categorize

Purpose: A circle map diagram can be used to structure the thinking of a group when they want to brainstorm and then group their ideas into categories. Within the context of Unified Improvement Planning, this strategy can structure team brainstorming about explanations for priority performance challenges and patterns of student performance.
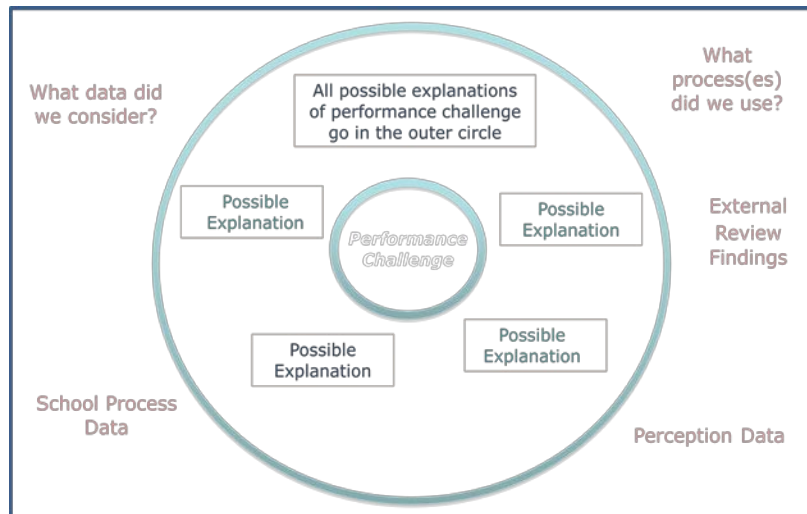
Materials: Large paper, flip chart page, or dry erase board; markers, pens, and sticky notes.

Steps:

1. Clarify what will focus the brainstorming activity

When using this strategy to brainstorm explanations for priority performance challenges, the priority performance challenge will focus the brainstorming activity.

2. Set up the "Circle Map"

The Circle Map includes three elements – a large circle, a smaller circle within that circle, and a frame (drawn around the outside of both circles). See example on this page. This can be drawn on a large sheet of paper, dry erase board, flip chart page, etc. Once these elements have been drawn, the priority performance challenge that is the focus of the brainstorming activity should be written in the center of the smaller circle.

3. Create a Frame

Identify what will "frame" the brainstorming. What additional data has the group reviewed (e.g. school process data, perception data)? Write these inside the frame and outside the large circle.

4. Focused Brainstorming

Around the center circle, team members will brainstorm all of the possible causes of that performance challenge. Using sticky notes, team members will list (one per note) possible causes of the priority performance challenge. During this process, it will be important to ensure every idea is captured and all "voices" are in the conversation. At this stage more is better. Then team members should post their sticky notes on the circle map (inside the outer circle, but outside the inner circle).

5. Categorize and Summarize

Next, the team will consider the causes that were identified and sort ideas into natural themes by asking: what ideas are similar? Is this idea connected to any other? To do this, team members will work in silence with each person moving sticky notes around to create groupings. Team members should keep moving notes until a consensus is reached. Then the group will discuss the groupings:

- If some ideas don't fit into any theme, leave as a stand-alone idea.
- If some fit more than one, create a copy and put in both groups.

Finally, the team should create a short 3-5 word description for each grouping.

> Circle map used with permission from Thinking Maps, Inc. Specific training required before implementing Thinking Maps. For more information, visit www.thinkingmaps.com.

Criteria for Narrowing Explanations

After the planning team has generated and categorized explanations of your performance data, and before you deepen your thinking to root cause(s), it's a good idea to intentionally narrow your explanations based on some criteria. Below are critical questions to help you get to the best possible explanations.

Step 1: Set aside explanations that are not within our control

First, your team needs to identify explanations that do not lie within the control of the school/district to either change or influence and put these explanations aside. The following questions could help with this process.

- ✓ Over what do we believe we have control (e.g., students completing homework, parents supporting their students, etc,)?
- ✓ What factors are beyond our influence?
- ✓ Would others agree? Are we thinking too broadly, too narrowly, or accurately?

Step 2: Evaluate the quality of your explanations
(reach consensus on explanations to keep)

The following criteria can be applied by your team to evaluating the current list of explanations and to whittle your list down to the "best" thinking available across the team. Use the questions below each criterion to help check the thinking of your team. Eliminate explanations that fail to meet these criteria.

Criteria: The explanation derives logically from the data
- ✓ Can we articulate the connection(s) we see between the data and our explanation(s)?
- ✓ Does our explanation reflect a genuine situation, but one that is not related to this data?
- ✓ Can we tell the story of how our explanation could lead to the patterns we see in our data?

Criteria: The explanation is specific enough to be testable
- ✓ Is the language specific enough to be clear to someone who was not part of our discussion?
- ✓ Are any vague terms used in our explanation? Do we all interpret our explanation the same way?
- ✓ Can we identify how we would test the explanation?

Criteria: The explanation is plausible
- ✓ Does any research support this thinking?
- ✓ If we base any planning steps on this explanation, do we anticipate meaningful results?

Step 3: Clarify the language used in your explanations

Consider the following questions to clarify remaining explanations.

- ✓ Would our explanations make sense to someone else reading or hearing them for the first time?
- ✓ Is our explanation complex enough to help us to better understand a complex situation?
- ✓ Did we use any terminology in our explanation that someone outside of our school/district would need to have clarified?

The Five Whys: Root Cause Identification

For each explanation, ask the question "Why?" and answer, "Because ____." Repeat this five times, asking why of whatever the "because" answer is. Stop asking "Why?" when you reach consensus on the root cause of the issue.

Explanation

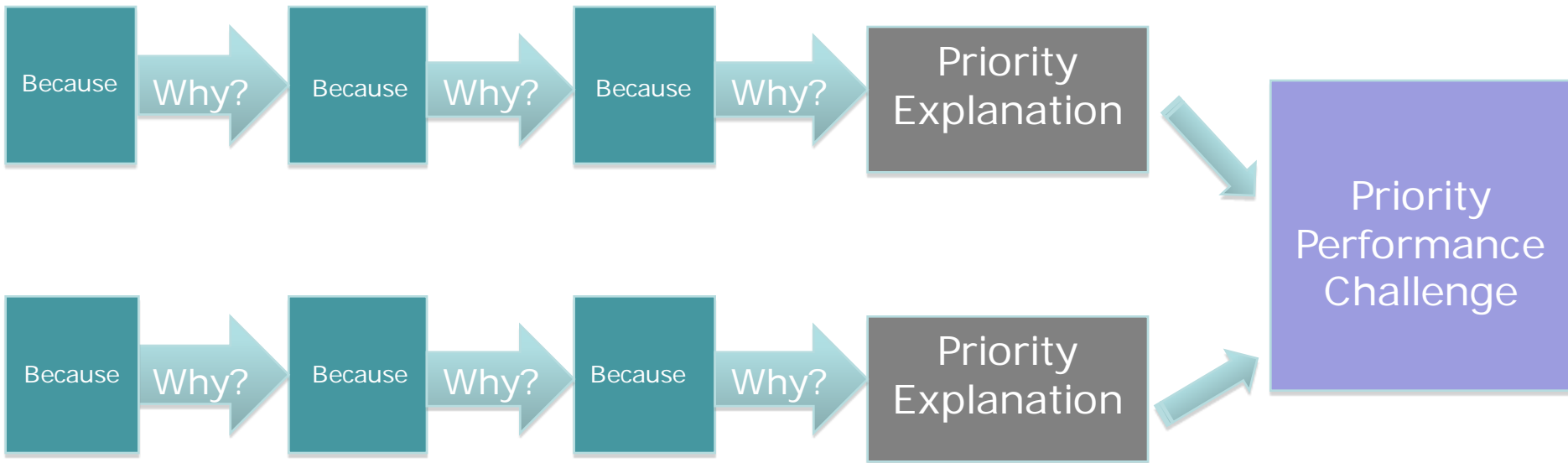_____

_____

_____

1. Why?

Because:

2. Why?

Because:

3. Why?

Because:

4. Why?

Because:

5. Why?

Because:

Getting to Root Cause

Because → Why? → Because → Why? → Because → Why? → **Priority Explanation** →

Because → Why? → Because → Why? → Because → Why? → **Priority Explanation** →

Priority Performance Challenge

Flow maps used with permission from Thinking Maps, Inc. Specific training required before implementing Thinking Maps. For more information, visit www.thinkingmaps.com.

Validate Root Causes

Priority Performance Challenge: _____

Possible Root Cause(s)	Questions to Explore	Data Sources	Validation