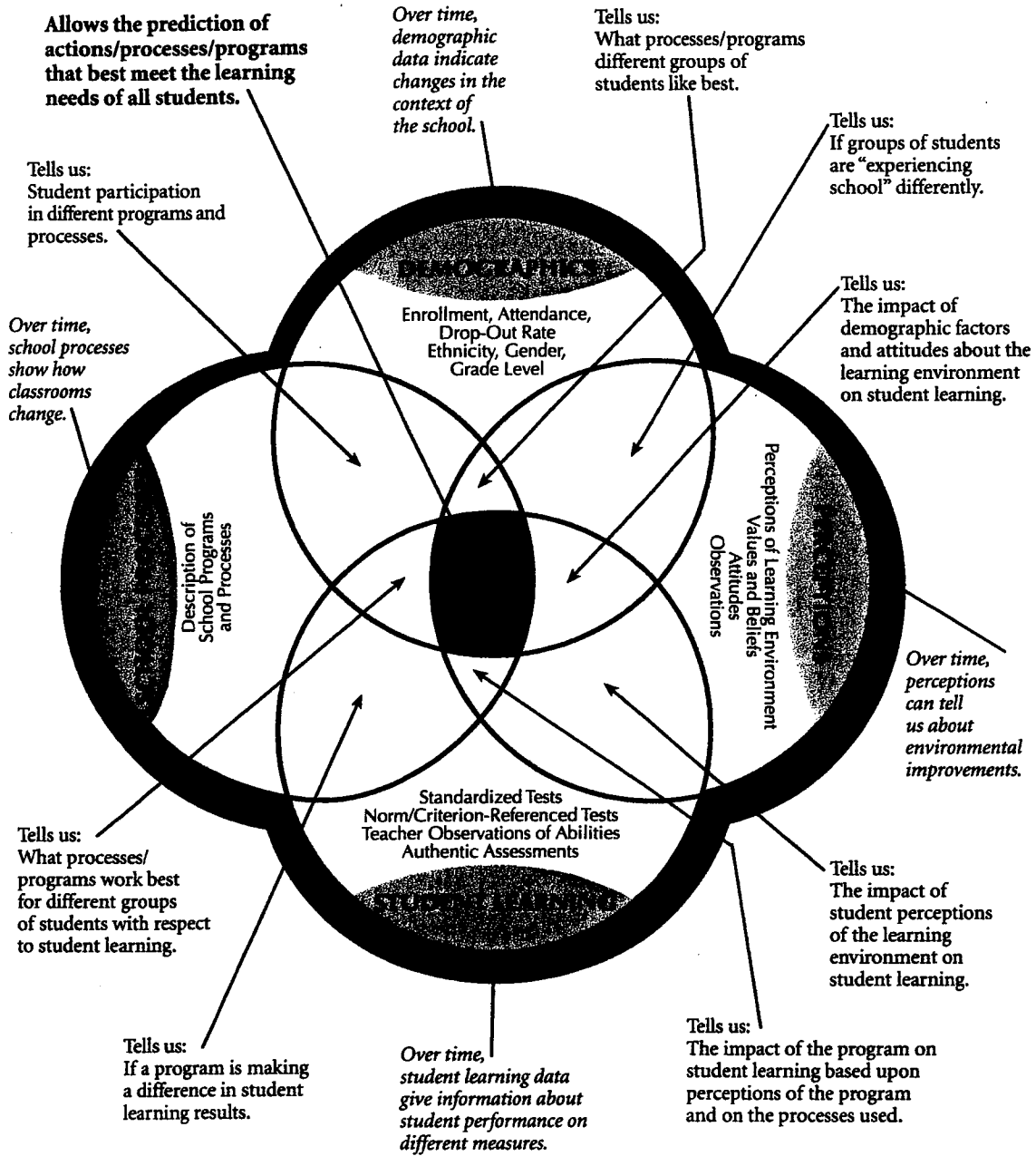


Table 1-1: Guiding Assumptions for Data-Driven Collaborative Inquiry

|   |   |
|---|---|
| <p>Data have no meaning.</p>  | <p>Data are simply information. Individuals and groups create meaning by organizing, analyzing and interpreting the data. Interpretation is subjective; data are objective. Frames of reference, the way we see the world, influence the meaning we derive from the data we collect and select.</p>   |
| <p>Knowledge is both a personal and a social construction.</p>  | <p>Human beings are meaning-making organisms. Knowledge is socially constructed and individually integrated. We sift experiences through personal and social filters, forming beliefs and ways of knowing. Individuals interact with information and with others to shape new understandings from our world and about our world.</p>  |
| <p>There is a reciprocal influence between the culture of the workplace and the thinking and behavior of its members.</p> | <p>Like societies, organizations have cultures that determine modes of behavior. Cultural artifacts, symbols and rituals reflect and transmit acceptable and unacceptable patterns and practices for individuals and groups. The introduction of new behaviors opens opportunities for testing cultural boundaries and shifting organizational norms.</p>   |
| <p>Understanding should precede planning.</p>   | <p>When confronted with data, individuals and groups often assign causality and determine solutions without clear problem definitions. They seek the comfort of action rather than navigate the discomfort of ambiguity. Skilled groups cultivate purposeful uncertainty as a pathway to understanding before jumping into planning processes.</p>  |
| <p>Cycles of inquiry, experimentation and reflection accelerate continuous growth and learning.</p>                       | <p>Learning occurs when we shift from professional certainty to conscious curiosity, from isolated individual to collaborative community member, and from passive technician to active researcher. The pursuit of meaningful questions arises from thoughtful data analysis, careful problem framing, and ongoing monitoring of gaps between goal achievement and current conditions.</p>   |
| <p>Norms of data-driven collaborative inquiry generate continuous improvements in student learning.</p>                   | <p>That we talk in schools is vitally important in these times. How we talk may be as important. Understanding emerges from rigorous inquiry and dialogue about important matters. Such inquiry is driven by high quality data derived from internal and external sources. Because data in and of themselves have no meaning, data alone leads to no action. Meaning and action result from collective processes that develop shared commitment to improved student learning.</p> |

Note: From *Data-Driven Dialogue*, by Bruce Wellman and Laura Lipton, 2003, Mira Via

# Multiple Measures of Data



Note. Adapted from *Data Analysis for Comprehensive Schoolwide Improvement* (p.15), by Victoria L. Bernhardt, 1998, Larchmont, NY: Eye on Education. Copyright © 1998 Eye on Education, Inc. Reprinted with permission.

Note. From *Using Data to Improve Student Learning in Elementary Schools*, by Victoria L. Bernhardt, 2003, Larchmont, NY: Eye on Education. Copyright © 2003 Eye on Education, Inc. Reprinted with permission.

## Summary of Data Intersections

| Intersections  | Can Tell Us –  | Would Be Helpful | Data We Have |
|--|--|------------------|--------------|
| <b>Two-way Intersections</b>   |  |                  |              |
| • Demographics by student learning                                   | • If subgroups of students perform differently on student learning measures  |                  |              |
| • Demographic by perception  | • If groups of students are experiencing school differently  |                  |              |
| • Demographics by school processes                                   | • If all groups of students are represented in the different programs and processes offered by the school  |                  |              |
| • Student learning by school processes                               | • If different programs are achieving similar student learning results   |                  |              |
| • Student learning by perceptions                                    | • If student perceptions of the learning environment have an impact on their learning results  |                  |              |
| • Perceptions by school processes                                    | • If people are perceiving programs and processes differently  |                  |              |
| <b>Three-way Intersections</b>                                       |  |                  |              |
| • Demographic by student learning by perceptions                     | • The impact demographic factors and attitudes about the learning environment have on student learning   |                  |              |
| • Demographic by student learning by school processes                | • What processes or programs work best for different groups of students measured by student learning results   |                  |              |
| • Demographic by perceptions by school processes                     | • What programs or processes different students like best, or the impact different programs or processes have on student attitudes   |                  |              |
| • Student learning by school processes by perceptions                | • The relationship between the processes students prefer and learning results  |                  |              |
| <b>Four-way Intersections</b>  |  |                  |              |
| • Demographic by student learning by perceptions by school processes | • What programs or processes have the greatest impact on different groups of students' learning, according to students' perceptions, and as measured by student learning results |                  |              |

Note: From *Using Data to Improve Student Learning in Elementary Schools*, by Victoria L. Bernhardt, 2003, Larchmont, NY: Eye on Education.



## Explaining the Data/Checking Our Thinking "Rubric"

After your team has generated explanations of the data, and before you begin planning next steps, it's a good idea to check your thinking again.

Below are indicators and critical questions for explanations. You may discover others. However, once you have worked your way through these, you will have a high level of confidence that your explanations can be used to plan your next steps.

**INDICATOR: 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 there any vague terms?
- ✓ How would we test the explanation?

**INDICATOR: The explanation lies within the control of our school or team**

- ✓ 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?

**INDICATOR: The explanation derives logically from the data**

- ✓ Can each of us 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?

**INDICATOR: The explanation is plausible and highly likely**

- ✓ Is it verifiable?
- ✓ Does any research support this thinking?
- ✓ What observations could be made to confirm the explanation?

**INDICATOR: The explanation IS an explanation**

- ✓ Is the explanation really a solution or suggested course of action?
- ✓ Is the explanation really an opinion "in disguise"?

**Other critical questions:**

- ✓ Does this explanation identify an area of concern?
- ✓ If we base any planning steps on this explanation, do we anticipate meaningful results?
- ✓ Is our explanation complex enough to help us better understand a complex situation?
- ✓ What other questions do our explanations lead us in order to make the picture more complete?
- ✓ Do we need other data in order to be more confident? What would they be? Are these data available?
- ✓ Do our explanations make sense to someone else reading or hearing them for the first time?

(8-31-04)

# Explaining Data: Job Aide

| Observation(s) | Explanations | Questions to Explore | Data Sources |
|----------------|--------------|----------------------|--------------|
|                |              |                      |              |
|                |              |                      |              |
|                |              |                      |              |



# ROOT CAUSE IDENTIFICATION FORM

Root Cause #1

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---

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*Why?*

Because:

Root Cause #2

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---

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*Why?*

Because:

*Why?*

Because:

*Why?*

Because:

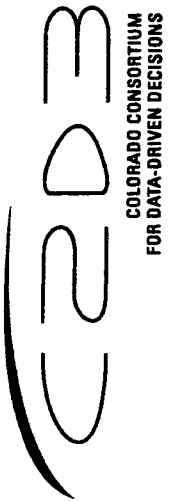
*Why?*

Because:

*Why?*

Because:

2. Ask of each root cause, up to three times, "Why?" and answer, "Because \_\_\_\_\_  
\_\_\_\_\_." Stop asking Why? when you reach  
consensus on the underlying cause of the issue.



# ACTION PLAN

Observation leading to concern:

Theory of causation:

SMART Goal:

| Action steps | Start Date | Due date | Leader | Support people | Resources needed |
|--------------|------------|----------|--------|----------------|------------------|
|              |            |          |        |                |                  |
|              |            |          |        |                |                  |
|              |            |          |        |                |                  |
|              |            |          |        |                |                  |
|              |            |          |        |                |                  |
|              |            |          |        |                |                  |
|              |            |          |        |                |                  |





# ACTION PLAN - SAMPLE

COLORADO COMPASSION FOR DATA-DRIVEN DECISIONS

**Observation / Priority:** The school's reading scores are down

**Theory of Causation:** Intermediate teachers (4th and 5th) need consistent, research-supported professional development in reading instruction, and materials to support implementation of those strategies

**SMART Goal draft:** The staff of Excellent Elementary will create and implement a plan to raise each student's reading achievement to Proficiency by 2007 through effective school-wide professional development in effective and research-based reading instruction strategies and use of appropriate support materials.

| Action steps   | Start Date | When due | Leader | Support people | Resources needed |
|--|------------|----------|--------|----------------|------------------|
| Identify what reading instruction strategies 4th and 5th grade teachers are currently using.   |            |          |        |                |                  |
| Identify research-proven reading strategies for intermediate-level students.   |            |          |        |                |                  |
| Collaboratively create a 2-year professional development plan that will involve all intermediate teachers.                             |            |          |        |                |                  |
| Create a plan and timeline for peer and administrative observation and support for implementation.                                     |            |          |        |                |                  |
| Create a plan and time line for monitoring impact of new instruction on student achievement.   |            |          |        |                |                  |
| Determine reading levels of all 3rd, 4th, and 5th grade students using SRI and Fontias-Pinnell leveling.                               |            |          |        |                |                  |
| Identify reading level expectations for each grade level that meet or exceed state proficiency levels.                                 |            |          |        |                |                  |
| Identify individual students who are below or just barely meeting expectations.  |            |          |        |                |                  |
| Review the ILPs of all students and update as needed.  |            |          |        |                |                  |
| Create a menu of reading interventions for all students not already on an ILP.   |            |          |        |                |                  |
| Update the school's reading resource room and level all reading materials by Lexia and by Fontias-Pinnell levels.                      |            |          |        |                |                  |
| Conduct individual classroom inventories of reading materials.   |            |          |        |                |                  |
| Create a plan, timeline, and budget to enhance classroom libraries with materials that will support expected instructional strategies. |            |          |        |                |                  |