Developing and leading productive collaborative inquiry around data
Laura Lipton

Dealing with Data
Dealing with data can result in:

• Committee without Community

• Time Without Tools

• Data without Deliberation

You can’t sell solutions to people who don’t own problems


Dealing with Data

Dealing with data can result in:

- Committee without Community
- Time Without Tools
- Data without Deliberation

Time without tools leads to frustration

Dealing with Data

Dealing with data can result in:

• Committee without Community

• Time Without Tools

• Data without Deliberation

Random acts of assessment do not translate into collective gains in learning

Dealing with Data

Data-based collaborative inquiry both requires and produces:

- Psychological safety
- Cognitive resourcefulness
- Relational resilience
Dealing with Data
Creating the conditions for productive data-based inquiry:

Crafting the Container
• Starting the conversation
• Structuring the conversation
• Sustaining thinking in the conversation


In this session:
• Activating and engaging the readiness, curiosity and relational skills
• Considering the importance of multiple sources of data
• Examining three modes of discourse
• Engaging with The Collaborative Learning Cycle
• Reflecting on five categories of "causes" to consider before determining a root cause

Five Assumptions

1. Assessment and feedback drive group growth.


Five Assumptions

2. Group development and task accomplishment intertwine

Five Assumptions

3. When groups change the way they talk, they change the way they work.


Five Assumptions

4. Comfort with discomfort is necessary for group learning.

Five Assumptions

5. Patterns become habits, habits become norms, norms shape behaviors.


Five Assumptions

1. Assessment and feedback drive group growth.
2. Group development and task accomplishment intertwine.
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4. Comfort with discomfort is necessary for collaborative learning.
5. Patterns become habits, habits become norms, and norms shape behavior.

What are some examples of these assumptions in your work.

Collaboration

A process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible.

Barbara Gray  
Collaborating: Finding Common Ground for Multiparty Problems
Collaboration?

Productive Group Work

Shared Purpose

Structure/Protocols

Focused Energy

Structuring Decisions

Starting the Conversation

Structuring the Conversation

Sustaining Thinking in the Conversation

- Group size, composition
  and length of time
- Interaction patterns,
  materials and space

A Principle for Leaders

Data as a third point

### Sources of Data

<table>
<thead>
<tr>
<th>DATA</th>
<th>QUANTITATIVE</th>
<th>QUALITATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Performance Data</strong></td>
<td>State, national, provincial performance tests&lt;br&gt;# of stu’s receiving special services&lt;br&gt;attendance, mobility, graduation, expulsion, suspension rates</td>
<td>portfolios/ work products&lt;br&gt;videotapes-digital files of student work/performances/exhibitions&lt;br&gt;student surveys, journals, logs&lt;br&gt;checklists, anecdotals, observational records</td>
</tr>
<tr>
<td><strong>Program Data</strong></td>
<td>Teacher/stu ratios&lt;br&gt;# of stu’s enrolled in various programs&lt;br&gt;special intervention and prevention programs&lt;br&gt;Teacher/adm preparation&lt;br&gt;Participation in PD&lt;br&gt;Budget/resource allocations</td>
<td>Videos of events, classrooms, school environment&lt;br&gt;Agendas, minutes, memos&lt;br&gt;Interviews&lt;br&gt;surveys, feedback forms&lt;br&gt;bulletins, newsletters</td>
</tr>
<tr>
<td><strong>Community Data</strong></td>
<td>Family demographics&lt;br&gt;# of school/business partnerships&lt;br&gt;housing/employment rates</td>
<td>Focus group/ survey data&lt;br&gt;Interviews</td>
</tr>
</tbody>
</table>

*Based on Lipton, L. & Wellman, B. (2012). Got Data? Now What? Bloomington, IN: Solution Tree Press*
Informational Altitudes

**International**
- TIMMS
- IAEPP
- IB
- PISA

**National**
- Terra Nova
- Stanford 9
- ITBS
- SAT
- ACT
- CTBS

**State/Province**
- Standards-driven Assessment
- Regents Exams
- Exit Exams

**District/Board**
- District-wide Assessments
- Publishers’ tests

**School/Gr. Lev/ Dept**
- Rubrics, scales, checklists
- T-developed common assessments

**Classroom**
- Individual Rdg Inventories
- Student conferences
- Formative assessments
- Student work products

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Choosing Which Data to Collect

**PROBLEM STATEMENTS:**
Grade 8 students are not successful because they do not feel that math is relevant in their lives.

**QUESTIONS:**
What is the relationship between the current math program and our students’ performance?

**HYPOTHESIS:**
Student math performance would improve if homework assignments offered more authentic tasks and real-world applications.

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Choosing Which Data to Collect

Constructing a Problem Statement:

<table>
<thead>
<tr>
<th>Initial Problem Statement</th>
<th>Refined Problem Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The problem is that the kids don’t turn in all their homework on time.</td>
<td>The problem is that some of our students do not see a connections between the homework we assign and successful learning.</td>
</tr>
<tr>
<td>The problem is that there is really low performance in ninth-grade math.</td>
<td>The problem is that incoming freshmen do not have the basic computation skills for success, and we aren’t adjusting our instruction to meet their needs.</td>
</tr>
<tr>
<td>The problem is that the kids don’t have any respect.</td>
<td>The problem is that students don’t have clear models of expected behaviors or consistently applied consequences for misbehaving.</td>
</tr>
</tbody>
</table>

Crafting and Inquiry:

- What are some differences between students who complete their homework and those who don’t?

- What might be some causal factors that keep students from successful homework completion?

- What types of assignments tend to be completed (or not completed)? What percentage of the time?

- What are some ways to determine student readiness for independent practice?
Choosing Which Data to Collect

Generating A Hypothesis:

If . . . Then . . .

If we provided more guided practice and used formative assessment to determine readiness, students would have the confidence to be successful with their homework.

If the homework was clearly related to the previous and following day’s instruction, then students would be more likely come prepared.

If we provided choice in assignments, then students would be more likely to complete their homework.


Choosing Which Data To Collect

1. Identify something in your own work setting that you are interested in knowing more about:
   - A curriculum gap
   - An instructional gap
   - Student skill deficit
   - Student behavioral pattern

Choosing Which Data To Collect

2. To explore this issue craft an example of each of the following:
   • A problem statement: The problem is.....
   • An inquiry:
     How are we doing with?
     What are some differences between?
     Why do/does?
     What are the most productive?
   • An hypothesis: If....... Then.......
Three Modes of Discourse

Dialogue: Talking to understand
  • Promotes a spirit of shared inquiry

Discussion: Talking to persuade and influence
  • Breaks issues and problems into components and parts

Decision Making: Talking to choose
  • Making a choice from among clear alternatives

# Dialogue and Discussion

<table>
<thead>
<tr>
<th>DIALOGUE</th>
<th>DISCUSSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>thinking holistically</td>
<td>thinking analytically</td>
</tr>
<tr>
<td>making connections</td>
<td>making distinctions</td>
</tr>
<tr>
<td>surfacing and inquiring into assumptions</td>
<td>surfacing and inquiring into assumptions</td>
</tr>
<tr>
<td>developing shared meaning</td>
<td>developing agreement on action</td>
</tr>
<tr>
<td>seeking understanding</td>
<td>seeking decisions</td>
</tr>
</tbody>
</table>


## Related Words

- Incision
- Precision
- Recision
- Decision

3- Minute Application

Generate examples in which engaging your group in purposeful dialogue would be the most effective initial choice.


Collaborative Learning Cycle

Activating and Engaging
• What assumptions do we bring?
• What are some predictions we are making?
• What questions are we asking?
• What are some possibilities for learning?

Exploring and Discovering
• What important points seem to pop out?
• What patterns, categories or trends are emerging?
• What seems to be surprising or unexpected?
• What are some ways we have not yet explored these data?

Collaborative Learning Cycle

**Organizing and Integrating**
- What inferences, explanations or conclusions might we draw?
- What additional data sources might verify our explanations?
- What solutions might we explore?
- What data will we need to guide implementation?

**Activating and Engaging**

**Exploring and Discovering**


2 Minute Verbal Rehearsal

Imagine you are going to explain this Cycle to your colleagues. “Rehearse” your description.

Activating and Engaging

Tips for Success

• Distinguish between predictions and assumptions.

• Develop predictions and assumptions concurrently.

• Record predictions and their related assumptions. Use separate recording sheets.

• Record predictions on a facsimile of the data display.

• Accept different predictions or assumptions

Gr. 8. Data Analysis and Probability


Which answer describes the relationship between the number of weeks Julie practices and her running time?

A. Julie is running at a slower rate each week.

B. Julie decreases her time by about 20 seconds each week.

C. Julie decreases her time by about one minute each week.

D. Julie is likely to run the 2 miles in 12 minutes during the 21st week.
Which answer describes the relationship between the number of weeks Julie practices and her running time?

A. Julie is running at a slower rate each week.
B. Julie decreases her time by about 20 seconds each week.
C. Julie decreases her time by about one minute each week.
D. Julie is likely to run the 2 miles in 12 minutes during the 21st week.
Exploring and Discovering

Tips for Success

- Purposefully structure the workspace.
- Provide time to orient to the data displays.
- Develop a sequence, designate a starting point.
- Record predictions on a facsimile of the data display.
- Apply structures and protocols.
- Public recording.
- Chart in language that is concise and specific.
- Depersonalize the data.

Collaborative Learning Cycle

Organizing and Integrating

- What inferences, explanations or conclusions might we draw?
- What additional data sources might verify our explanations?
- What solutions might we explore?
- What data will we need to guide implementation?

Managing
Modeling
Mediating
Monitoring

Exploring and Discovering

Activating and Engaging

Organizing & Integrating

Tips for Success

• Study success
• Generate multiple theories of causation
• Allow for multiple causal theories
• Seek calibrating data that are in existing archives
• Generate multiple theories of solution
• Make sure goals are clear and measurable (SMART goals)

Five Causal Categories

- Curriculum
  Design and implementation
- Infrastructure
  Schedules, programming and resources
- Students
  Knowledge, skills and dispositions
- Instruction
  Methods, materials and resources
- Teachers
  Knowledge, skills and dispositions

To Learn More

Free Resources:
Study Guide: Arranged by chapter, enabling readers to either work their way through the entire book or to focus on topics addressed in a particular

Reproducibles: Handouts to copy and share, as well as forms you can fill in electronically.


To Learn More

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