

DAC Analytics

Using State and Local Data
to Improve Results

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DAC's Goal

Form partnerships in states that join state and local agencies in the use of data to drive improved results

Premises



Data Use involves:

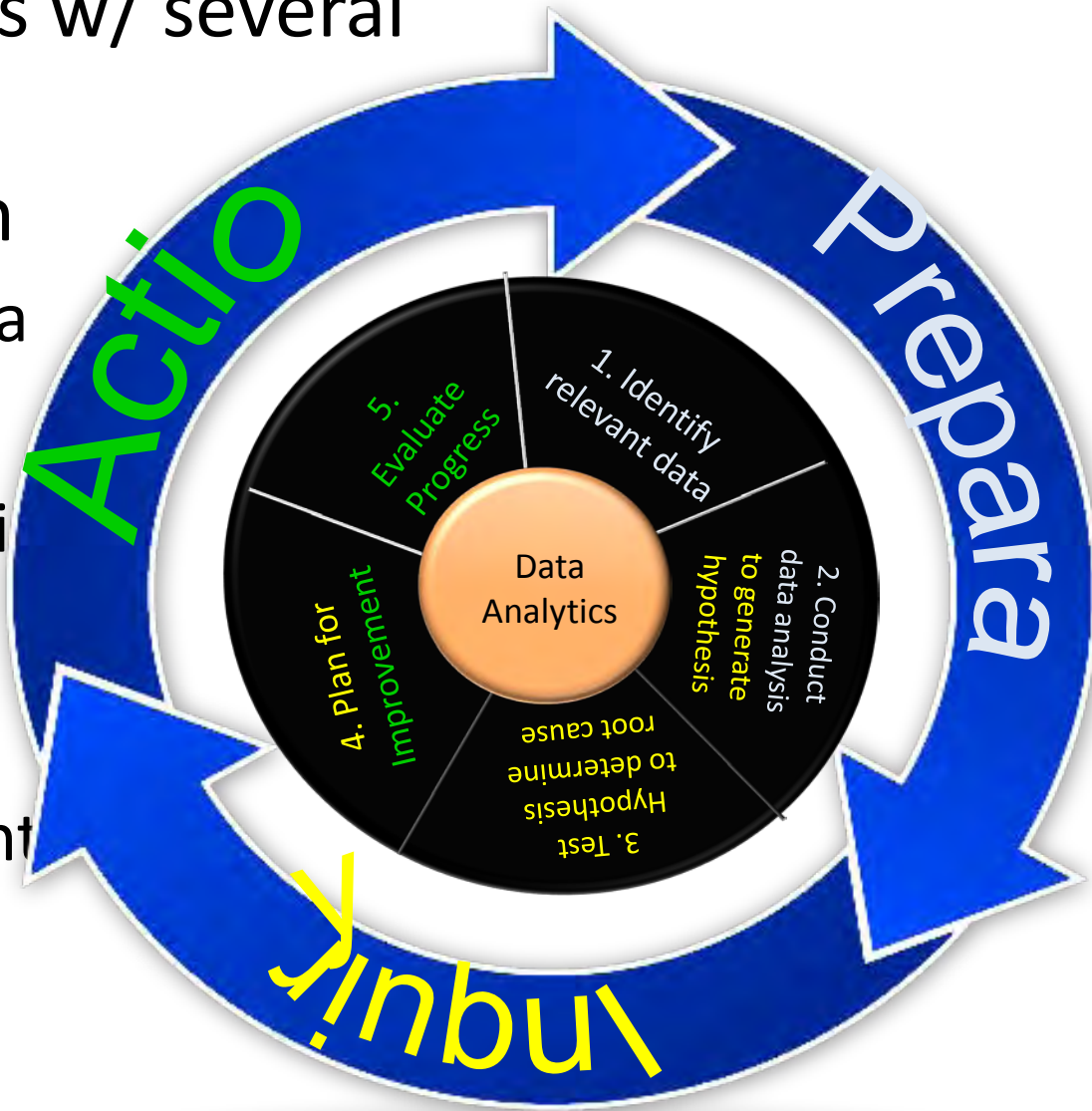
- Working through a Collaborative Team approach.
- Engaging Team in a Continuous Improvement Process.
- Relating the Data to specific Problem/Issue.

Using Data is an Iterative Process!

A Model for Data Use

Consist of three phases w/ several steps:

- Phase 1: Preparation
 - Identify relevant data
- Phase 2: Inquiry
 - Conduct data analysis
 - Test hypothesis
- Phase 3: Action
 - Plan for improvement
 - Evaluate progress



Data Quality Standards

Data collected, submitted, analyzed, and reported must be:

✓ Timely

✓ Accurate

○ Reliable

- Consistent
- Objective

○ Valid

- Complete
- Credible

✓ Secure

✓ Useful

- Interpretable
- Relevant
- Transparent
- Accessible

MODULE 1: IDENTIFY RELEVANT DATA

How do you go about identifying relevant data?



*The key to identifying **relevant data** is to ensure that you clearly define or select a specific **problem or issue.***

Problem Description

The problem should be a clear concise statement of the issue(s) that need to be addressed by a problem solving team.

Problem Description

The described problem should answer:

1. **Who** has the problem?

This should explain who needs the solution and who will decide the problem/issue has been resolved

2. **What** is the problem?

This should explain why the team is needed

3. **Where** did the problem occur?

4. **When** did the problem occur?

This should provide the context and timeframe of the problem/issue

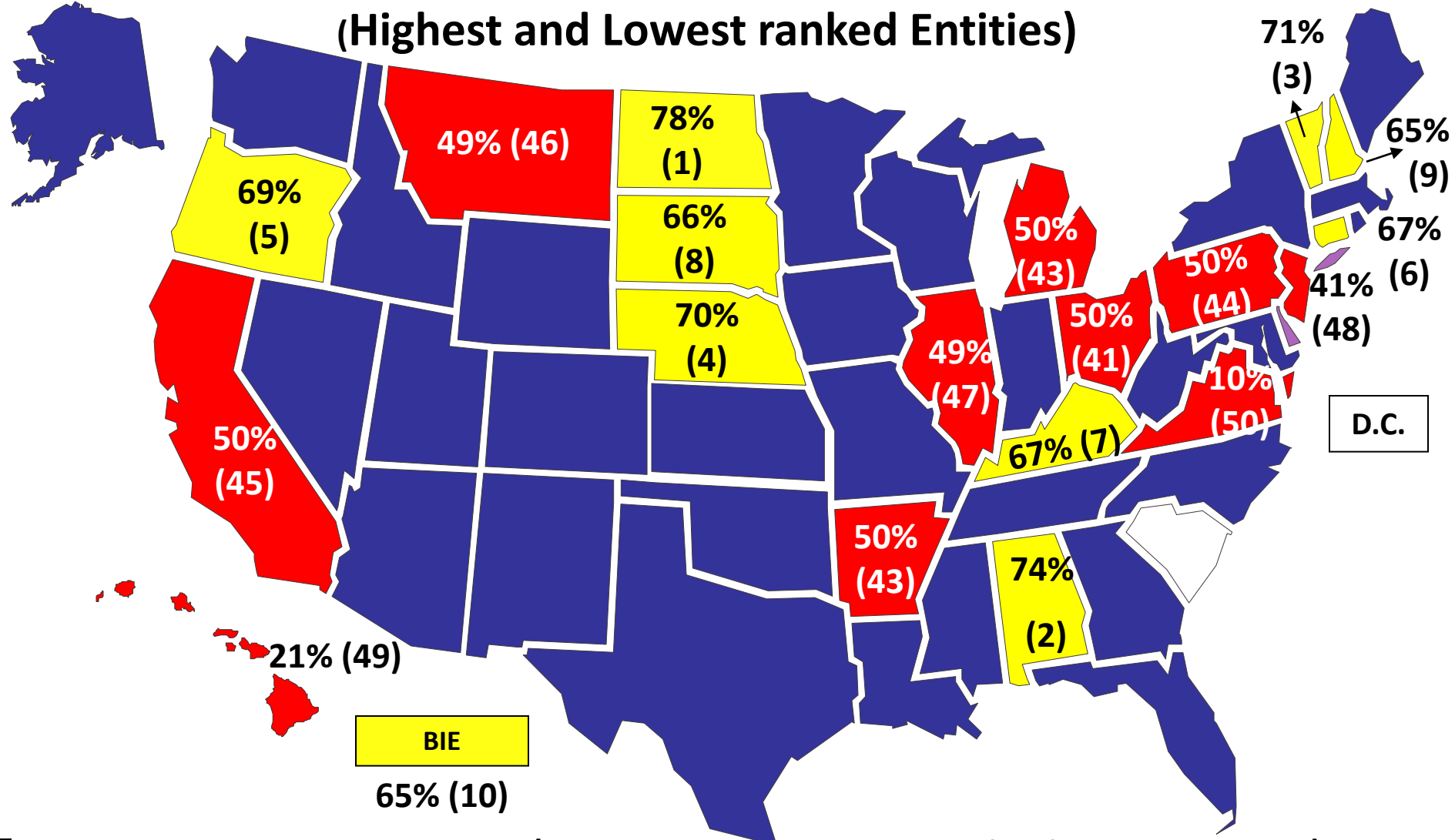
Problem Description

Although you begin with an **initial** problem statement, you should **revise** the statement as necessary when additional **data are collected** and analyzed throughout the data analytics process

ISBE Problem

For more than three years, as documented in the APR and in public reports, the State of Illinois has reported percentages of students with disabilities included in regular classrooms 80% or more of the day at a lower rate than the national average.

Educational Environments: 2006 Percent Served Inside Regular Class >80% of the School Day (Highest and Lowest ranked Entities)



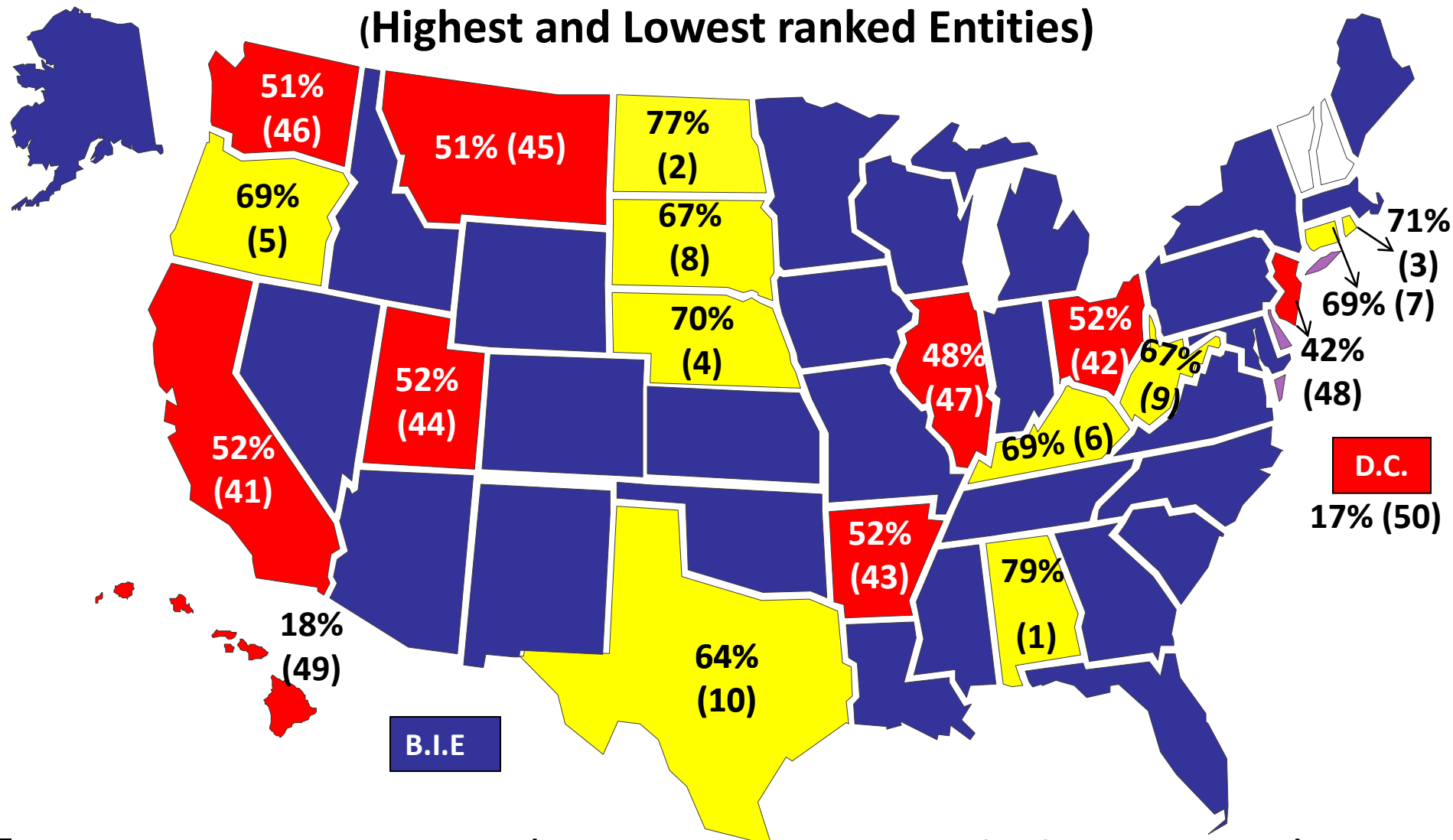
(Reporting States, DC & BIE Schools Average = 54%)

- States Not Ranked- Denominator <10
- Highest Ranked for Percent Served in Setting
- Lowest Ranked for Percent Served in Setting
- X= suppressed data



Source: Dec 1, 2006 count. IDEA Data provided by OSEP Table 5.8 See www.ideadata.org
State Ranks-Part B

Educational Environments: 2007 Percent Served Inside Regular Class >80% of the School Day (Highest and Lowest ranked Entities)



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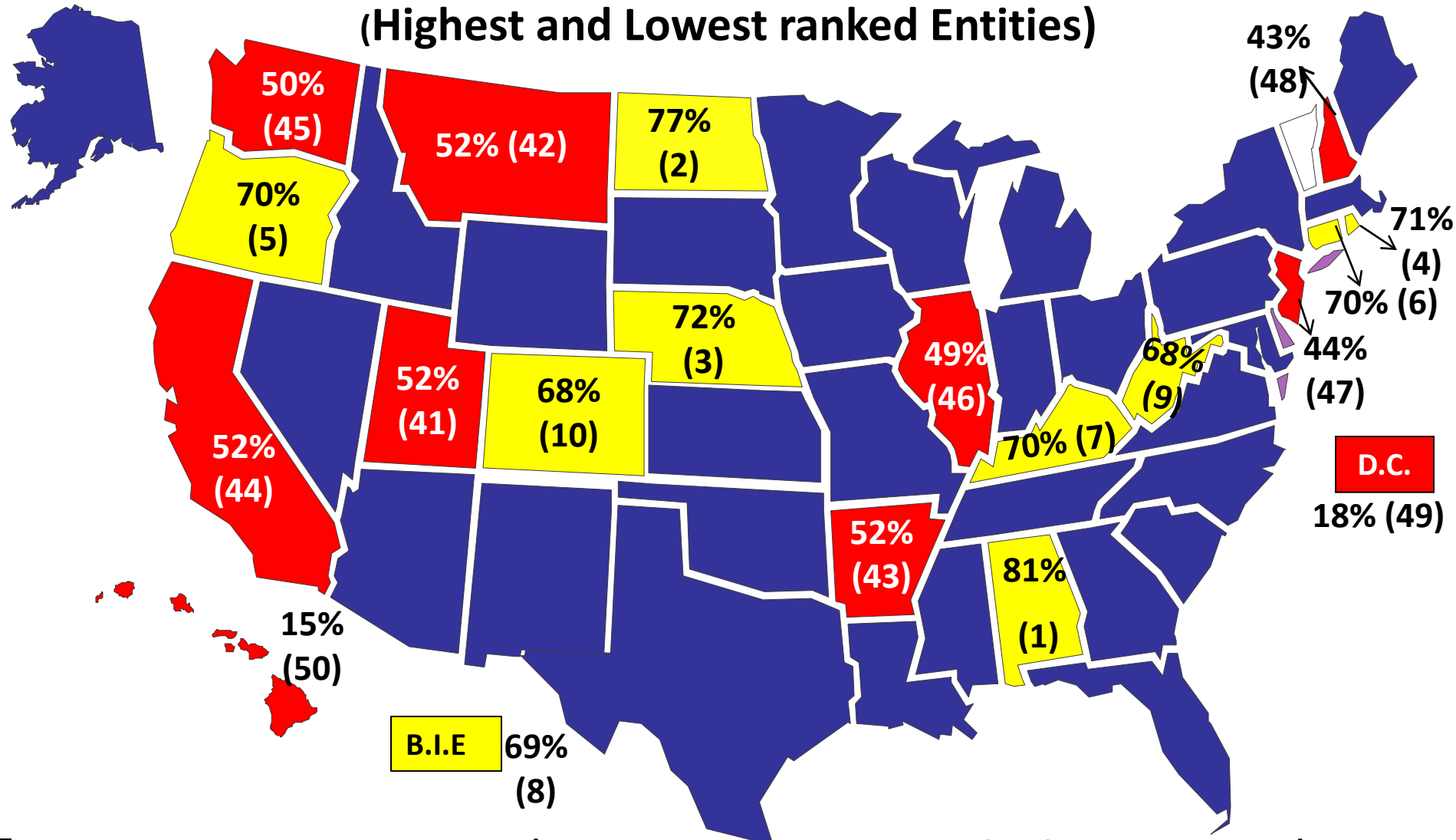
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Source: Dec 1, 2007 count. IDEA Data provided by OSEP Table 5.2. See www.ideadata.org
State Ranks-Part B

Educational Environments: 2008 Percent Served Inside Regular Class >80% of the School Day (Highest and Lowest ranked Entities)



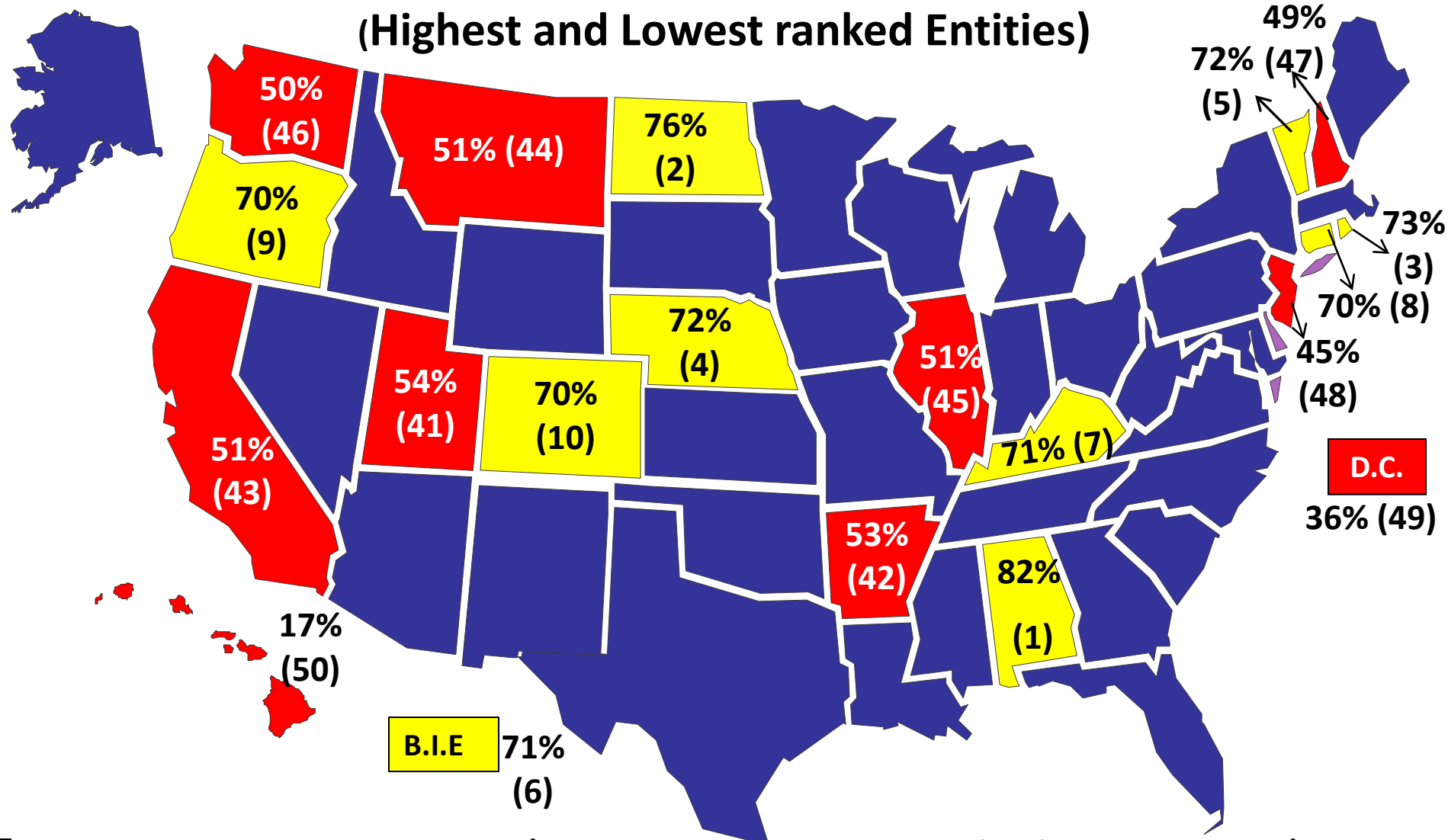
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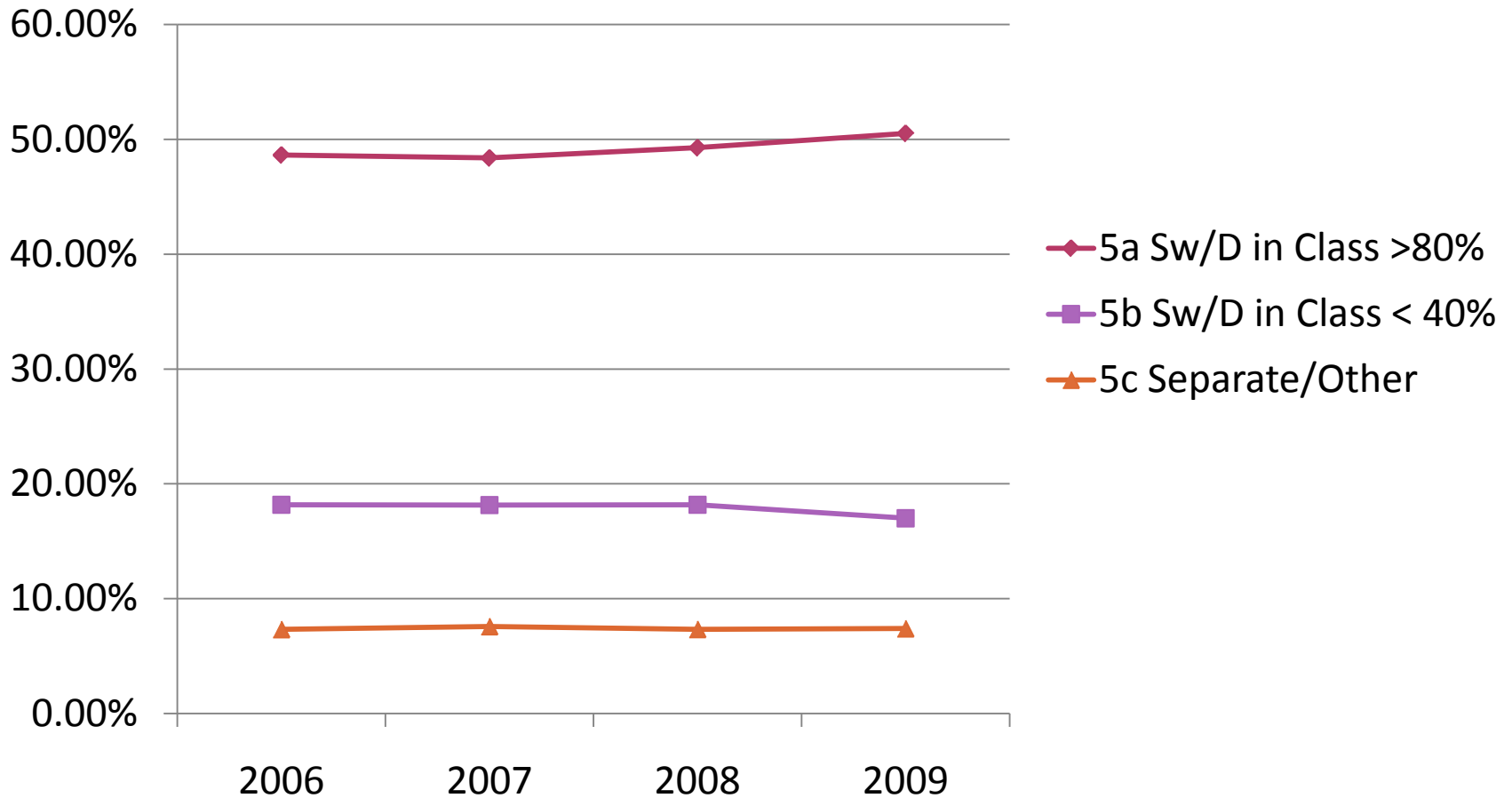
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State Ranks-Part B

Illinois Sw/D Indicators 5a, 5b, 5c



Problem Description

District team

- Begin with an *initial* district problem statement compared to the state problem statement
- Revise the statement as necessary when additional data are collected and analyzed throughout the data analytics process

Given your district problem statement....

Identify which data you need to gather the evidence necessary to answer “why” the problem or issue exist.

Identify Relevant Data (cont'd)

- Reduce the amount of data to the most relevant information
- Relevant information = information that relates to the problem or issue of concern

Identify Relevant Data (cont'd)

- Relevant information may include:
 - District, building, or school - level data
 - Disaggregated student population data
 - Data on the status of highly qualified personnel disaggregated by building/school



Identify Relevant Data (cont'd)

- Possible Data Sources
 - LEA profiles
 - State websites
 - District/local student databases
 - Others???

Module 2



**Step 2: Conduct Data Analysis
to Generate Hypothesis**

DATA ANALYSIS

What is data analysis and how is it done?

Analysis is based upon what the
problem is...

The question “WHY” comes into play





Analysis involves organizing and understanding data based on criteria you develop; it is useful when you want to find some **trend or pattern.**

Source: Purdue Online Writing Lab

***Drill down** involves accessing information by starting with a general category and moving through the hierarchy of field to file to record; it is the act of **focusing in** to get to the root cause.*

Source: Adapted from Webopedia

HYPOTHESIS

What is a hypothesis and how do you generate one?

A hypothesis is defined as “..... a starting-point for further investigation from known facts”.

(The Concise Oxford Dictionary, 1990)

Steps to writing a good hypothesis

1. Through your data analysis today, narrow your problem statement from broad to specific
(e.g., reading proficiency of SW/Ds)
2. Determine what question you want to answer through your investigation. (affirmative)
(e.g., does access to the general education curriculum assist SW/Ds to perform better on tests of reading proficiency?)
3. Answer the question: must agree as a team.
(e.g., yes, access to the general education curriculum will assist SW/Ds to perform better on tests of reading proficiency)

Example of a Hypothesis

Sw/Ds who have greater access to the general curriculum as measured by time spent with typical peers will perform better on tests of reading proficiency than those Sw/Ds who have less access to the general.

Another example of a Hypothesis

IF-Then

If reading proficiency is related to access to the general education curriculum, then increasing SW/Ds access to the general education curriculum will improve their performance on the statewide reading assessment.

DATA ANALYSIS PLAN

What is an analysis plan and why develop one?

The analysis plan provides an outline of additional data that need to be analyzed to test the hypothesis and determine root cause; it helps with preparing a clear and concise presentation of the results of your analysis activities

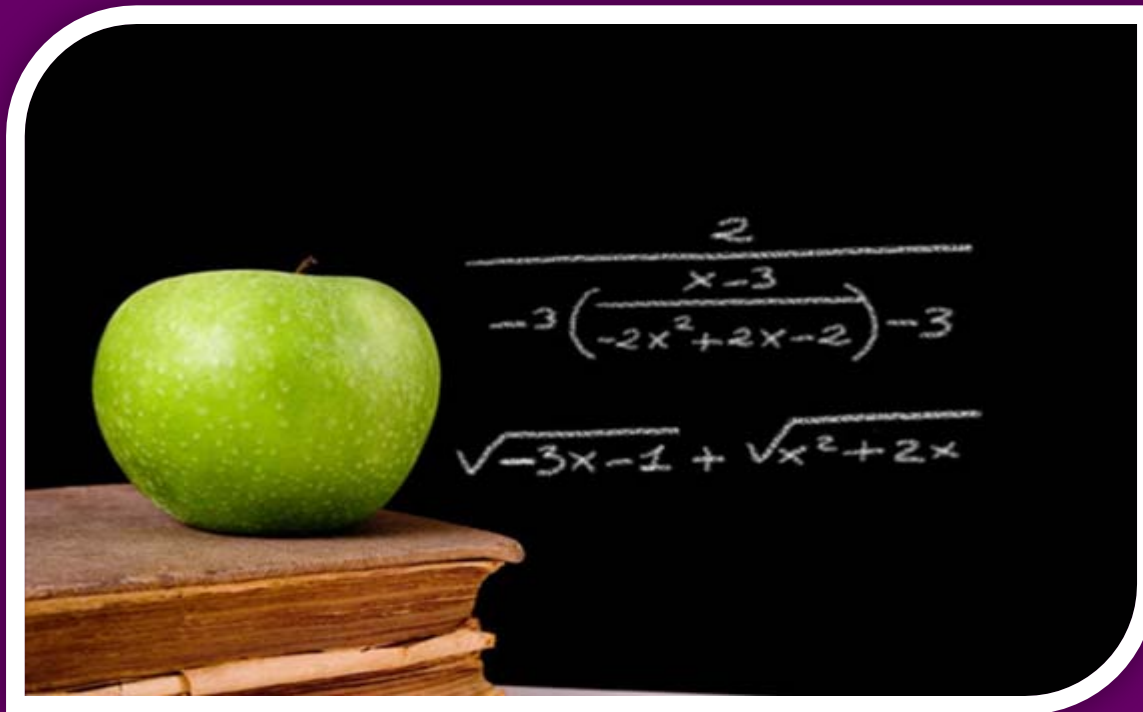
Data Analysis Report - Components

The analysis should include:

- Types of data to be examined (e.g., demographic data; data about programs, process and outcomes; etc.)
 - Student records
 - Interviews (e.g., position and roles of building and district personnel)
 - Observations



Let's get you started on Module 3



Step 3: Test Hypothesis to
Determine Root Cause

HYPOTHESIS

How do you go about testing
it?

“ In order to shake a hypothesis, it is sometimes not necessary to do anything more than to push it as far as it will go.

Denis Diderot

DATA TRIANGULATION

What is it and how do you do it?

Data triangulation is a process of examining multiple sources of data to form a conclusion or generalization.

Source: Wikipedia

ROOT CAUSE ANALYSIS

Why determine the root cause?

Determining the Root Cause:

- Helps Dissolve the Problem
- Eliminates Patching
- Conserves Resources
- Facilitates Discussion
- Provides Rationale for Strategy Selection

When is a Cause a Root Cause?

Criteria:

- Would the problem have occurred if the cause had not been present?
- Will the problem reoccur as the result of the same cause if the cause is corrected?
- Will correction of the cause lead to similar events?

Preus, 2003, Root Cause Analysis: Using Data to Dissolve Problems

When is a Cause a Root Cause?

Other indicators:

- You run into a dead end asking what caused the proposed root cause.
- Everyone agrees that this is a root cause.
- The cause is logical, makes sense, and provides clarity to the problem.
- The cause is something that you can influence and control.
- If the cause is dissolved/corrected, there is a realistic hope that the problem can be reduced/prevented in the future.

Preus, 2003, Root Cause Analysis: Using Data to Dissolve Problems

Module 4



Plan for Improvement

When data indicate a problem or issue, districts and schools should develop or revise an improvement plan that outlines the course of action it will take to improve results.

Adapted from ESEA, Title I, Sec. 1116 (b)(3)

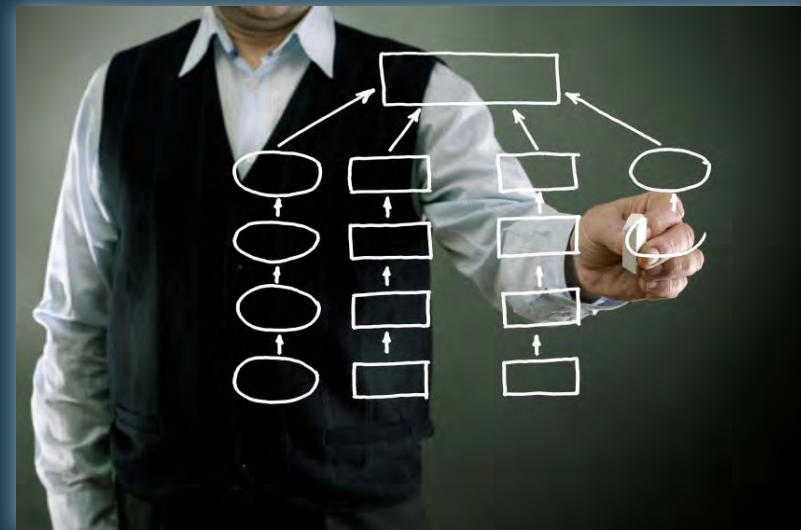


IMPROVEMENT PLAN

What is an improvement plan
and why develop one?

Basic Components of an Improvement Plan

- Goals
- Activities
- Timelines
- Person(s) Responsible
- Resources
- Evidence of Change



Setting goals is critical to determine how much progress (as documented in an improvement plan) is acceptable and what amount of progress is not; it establishes internal accountability, high expectations and a trajectory by which to evaluate progress.

Boudette, City, and Murnane - Datawise

First Consider Evidence of Change

- Indicate that the changes in the system have yielded “significantly” improved results for students with disabilities in the problem area
- Must be demonstrated through gains in student results data
- Not about “effort” but about “impact”

Setting SMART Goals

*S*pecific

*M*easurable

*A*ttainable

*R*ealistic

*T*imely



Tasks for Successful Planning

Task 1: Describe what team members expect to see if the plan were implemented well (e.g., behaviors)

Task 2: Decide on the activities that will solve the problem or issue that has been identified through data analysis.

Tasks for Successful Planning

Task 3: Build internal accountability by documenting roles and responsibilities and specifying concrete steps that need to occur.

Task 4: Plan how you will know if the plan is working.



Organize Data Sources to Assess Progress

Short-term data – information that can be collected daily or weekly

Medium-term data – information gathered systematically at the building-, grade-, or district-level at periodic intervals during the year

Long-term data – information gathered annually (e.g., students' performance on statewide tests)

Planning to Assess Progress

Directions:

1. Review the activities, deliverables, and timelines in your improvement plan.
2. Organize the information by time frame (i.e., short-term, medium-term, and long-term).



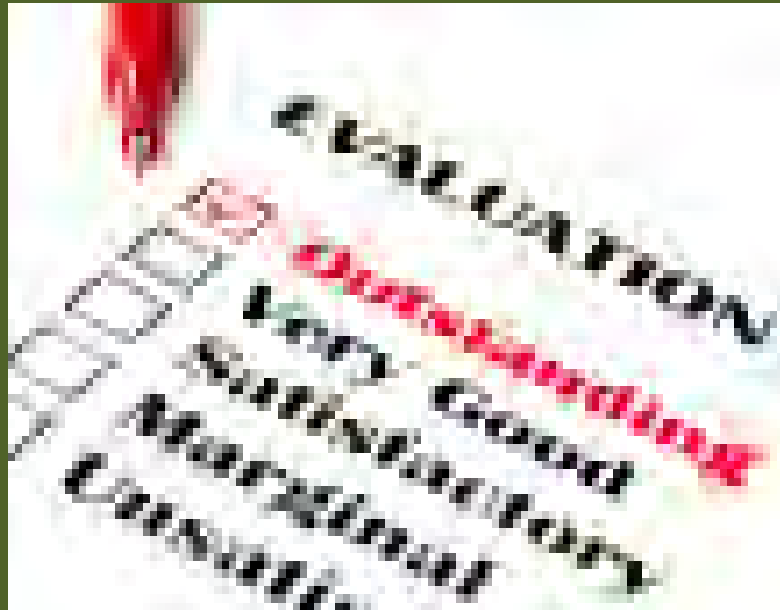
Planning to Assess Progress (cont'd)

3. Discuss the following questions:
 - a) What assessments will be used to measure progress?
 - b) When will the assessment data be collected?
 - c) How will the data be shared among and across teams?
 - d) What are the goals for improvement and proficiency?

Follow-up/Self Assess

- Describe how each specific activity will be followed-up, monitored, and maintained by the district to ensure that the expected changes take place
- Must be measurable
- Must be specific (Who will do it?, What will be done? How will it be documented? When will it be done?)

Module 5



Step 5: Evaluate Progress

EVALUATE PROGRESS

What are the basic types of evaluations?

Evaluation Types

- Process
- Outcome
- Impact
- Formative
- Summative



Two potential pathways

- District met goals and evidence of change and now need to create evaluation strategies to ensure sustainability
- District did not meet goals and evidence of change and needs to reevaluate process

Pathway One: District met goals and evidence of change and now needs to create evaluation strategies to ensure sustainability

- Does the team have a plan to ensure sustainability over time?
- Does the team have plans/strategies to keep the work fresh and ongoing?
- Does the team have routine checks to review data to ensure sustainability?
- Does the team have plans to “raise the bar” for improvement?

Pathway Two: District did not meet goals and evidence of change and needs to reevaluate

Where do we go from here:

1. Did the district implement the **improvement plan** with fidelity?
2. Did team set unreasonable **SMART goals** and expectations?
3. Did the team identify the correct **root cause**?
4. Did the team analyze the appropriate data sources (triangulate) to **test the hypothesis**?

Pathway Two: District did not meet goals and evidence of change and needs to reevaluate

Where do we go from here:

5. Did the team develop an **analysis plan** that considered all additional data that needed to be analyzed to test hypothesis and determine root cause?
6. Did the team have sufficient data to **develop hypothesis**?
7. The team articulate a specific and concise **problem statement**?
8. Are the right people on the **team**?

Questions?



Thank you!



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