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INTERACTIVE INSTITUTE 2021

BUILDING AND SUSTAINING A CULTURE OF HIGH-QUALITY DATA

Unearthing Root Causes: How Data Analysis Processes Can Target State and LEA Improvement Activities

April 13–15, 2021

IDC — **IDEA DATA CENTER** | Collect, Report, Analyze, and Use High-Quality Part B Data

Westat®

Presenters

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Agenda

- Introductions and Systems Planning

- In-depth data analysis
  - Diagnostic tree

- State experience
  - Kansas
  - Indiana

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Collect, Report, Analyze, and Use High-Quality Part B Data

Who's in the "Room"?

- State directors of special education

- Part B data managers

- Data analysts

- SPP/APR coordinators

- SSIP coordinators

- 619 coordinators

Why Are Data Important?

- All of us are responsible, in some way, for improving outcomes for children and youth with disabilities

- How do data fit into this responsibility?
  - Data can help us assess child performance and growth
  - Data can tell us if strategies or practices are working
  - Data can show us gaps or challenges that we need to address

- Effective data use helps us strategically allocate resources that best support children and youth with disabilities
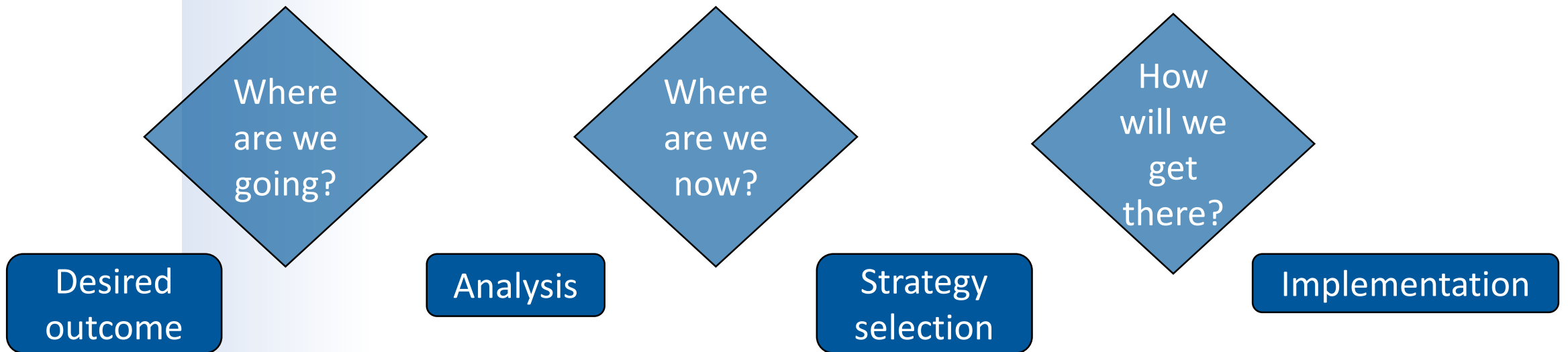
Data Use

- Using data is imperative not just to identify problems or challenges but also to identify the causes of these problems and challenges
  - Often, there are many causes
  - We must dig into the data to get to the roots
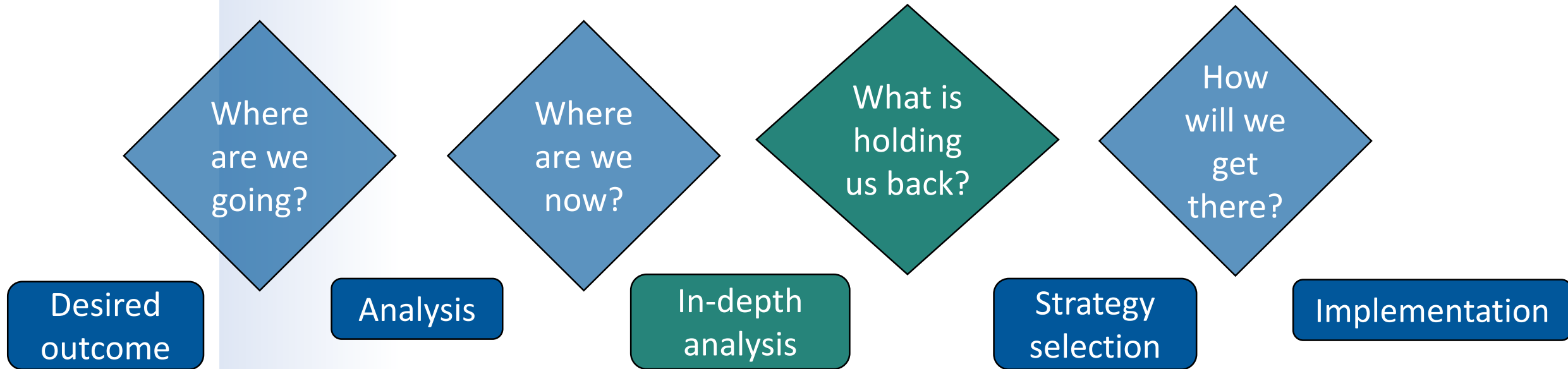- This is where in-depth data analysis comes in

In-Depth Data Analysis

- Encourages systemic thinking
- Can eliminate wasted efforts on potential solutions that will not dissolve root causes of problems or challenges
- Spurs reflection on current processes and practices
- Provides rationale for strategy selection

Typical Planning Process

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Where are we going?

Desired outcome

Analysis

Where are we now?

Strategy selection

How will we get there?

Implementation

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A Systems Planning Process

Where are we going?

Where are we now?

What is holding us back?

How will we get there?

Desired outcome

Analysis

In-depth analysis

Strategy selection

Implementation

Contributing Factors Related to the Root Cause(s)

- Factors include characteristics of the school or district culture, curriculum, instruction, and/or physical environment

- Multiple contributing factors are typically the result of a single root cause

- Multiple contributing factors may have multiple root causes

- Addressing the root cause dissolves associated contributing factors

Who Should Be Included in a Systems Planning Process?

- Parents and children and youth representing both the group of concern and the those experiencing success

- General and special education professionals who work with the group of concern

- General and special education professionals who work with those children and youth succeeding

- Support staff (school psychologists, school counselors, etc.)

- Community members from organizations that support youth and families and local business representatives

- Leaders with the influence and authority to make changes

In-Depth Data Analysis

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Questions to Ask About Data

Data Meeting Toolkit

⚙ View the Toolkit Components
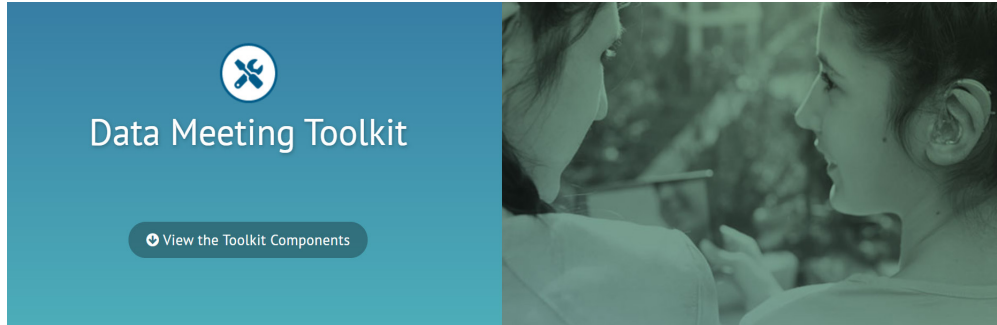
- Observations
  - What are your initial thoughts or reactions?
  - What do you know about the data?
  - Is there a change or a trend?
 - Do the data surprise you?
  - What do you want to know?

- Interpretations
  - What do the data tell you?
  - What thoughts or assumptions do these data confirm?
  - Are there limitations to your conclusions, and if so, what are the limitations?
  - What further data do you want to see?

- Implications
  - What are the implications?
  - What is/are the root cause(s)? Do you know them yet?
  - What do you still need to find out? Do you have enough data/information to move forward?

Analysis Tool—Diagnostic Tree

Priority issue	
Context	
Initial hypotheses	
Intermediate hypotheses	
Deep hypotheses	
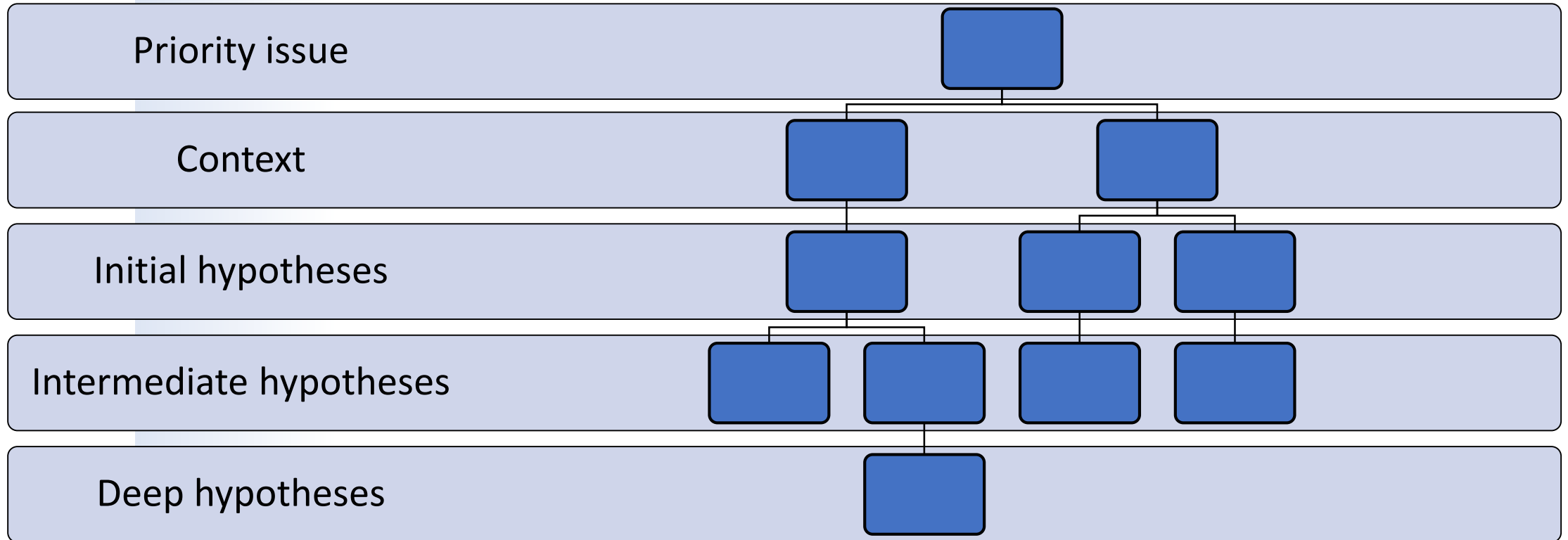
Source: Preuss, P. (2003). *School Leader's Guide to Root Cause Analysis: Using Data to Dissolve Problems.* Larchmont, NY: Eye on Education.
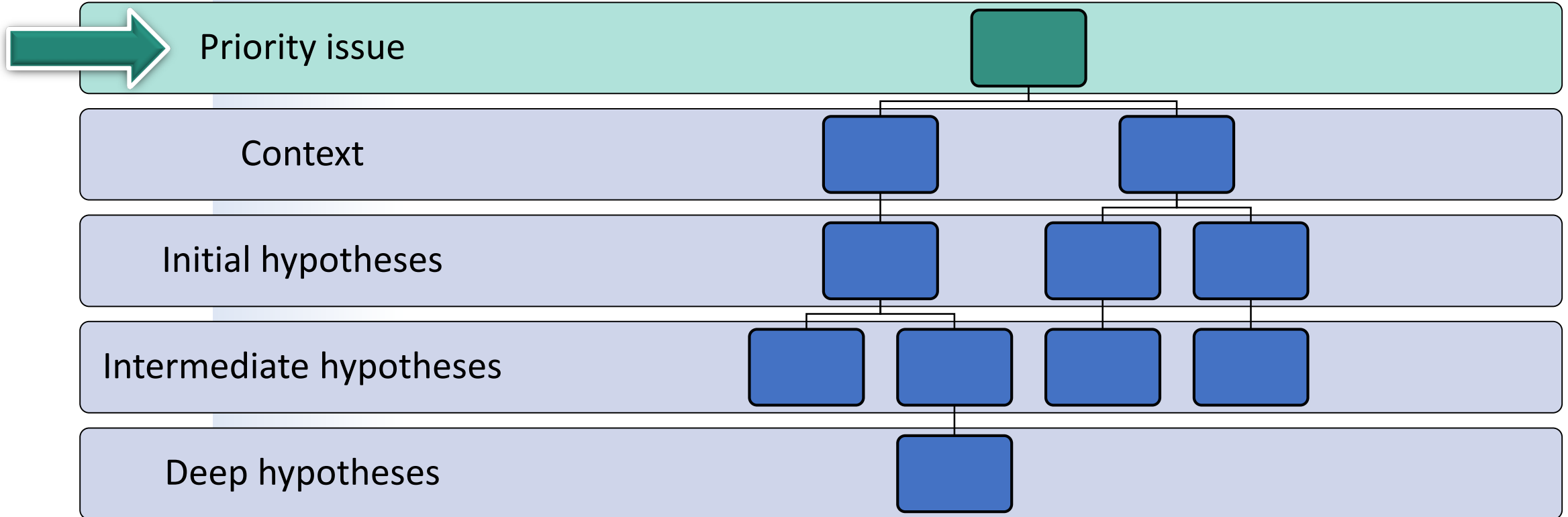
Example: LEA B Landscape—Students With Disabilities (SWD)

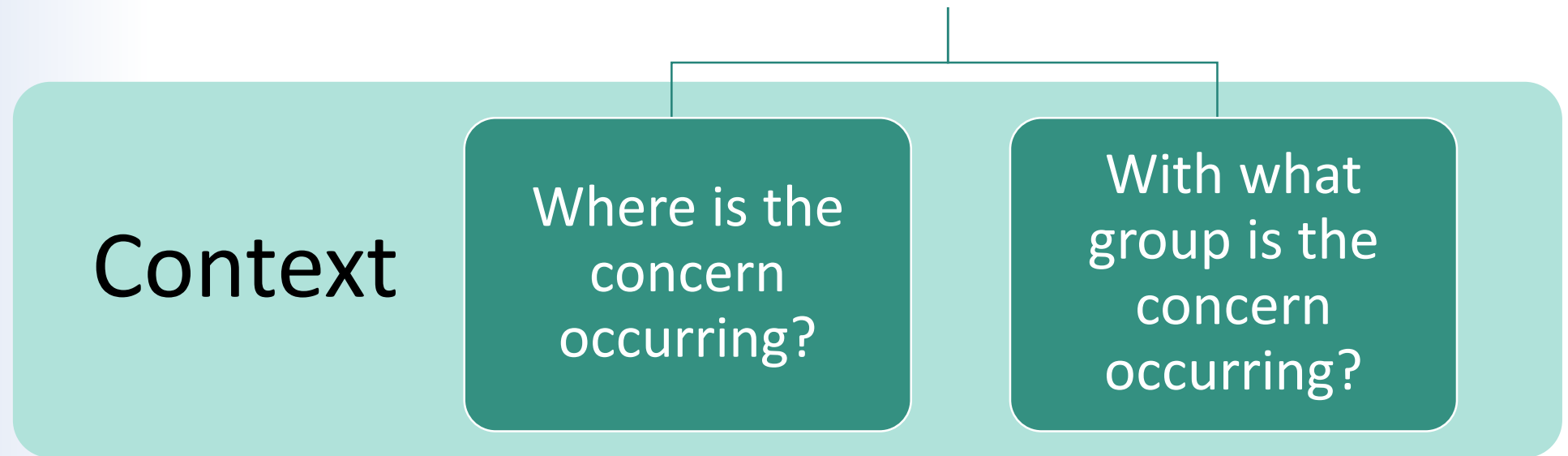| Data elements	2016-17 SY	2017-18 SY	2018-19 SY
Graduation rate	53.57%	52.8%	56.13%
Dropout rate	4.6%	5.6%	4.69%
Reading proficiency *(Elementary and middle school)*	18.2%	20.1%	17.73%
Reading proficiency *(High school)*	18.3%	18.86%	14.21%
Inside the regular class 80% or more of the day	42.9%	41.24%	39.31%
Inside the regular class less than 40% of the day	27.4%	29.82%	31.33%
In separate schools, residential facilities, or homebound/hospital placements	1.2%	1.25%	1.19%

Graduation Rate

State 4-Year Cohort Graduation Rate

Bar chart showing state 4-year cohort graduation rate comparing Non-SWDs and SWDs:

- 2016–2017: Non-SWDs 80.9%, SWDs 53.6%
- 2017–2018: Non-SWDs 81.7%, SWDs 52.8%
- 2018–2019: Non-SWDs 80.9%, SWDs 56.1%

Legend: ■ Non-SWDs ☐ SWDs
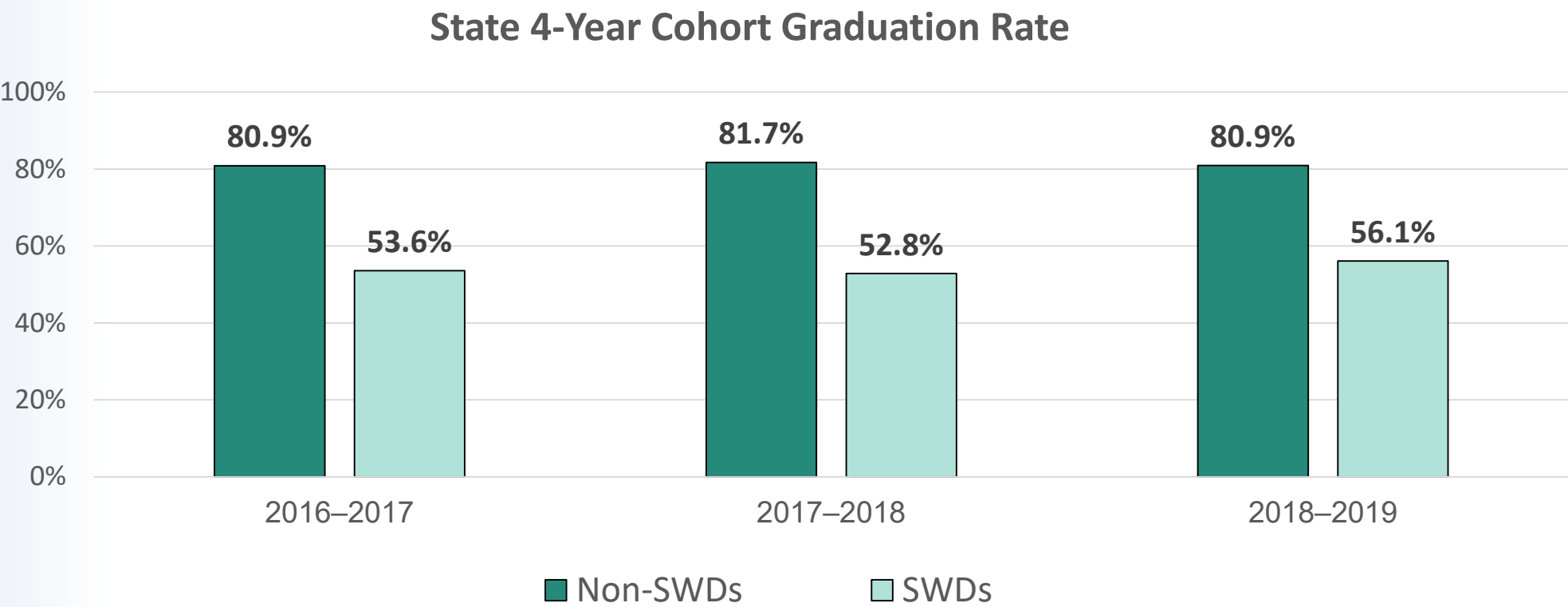
Example: LEA B Landscape

Data elements	2016-17 SY	2017-18 SY	2018-19 SY
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Analysis Tool—Diagnostic Tree

Context

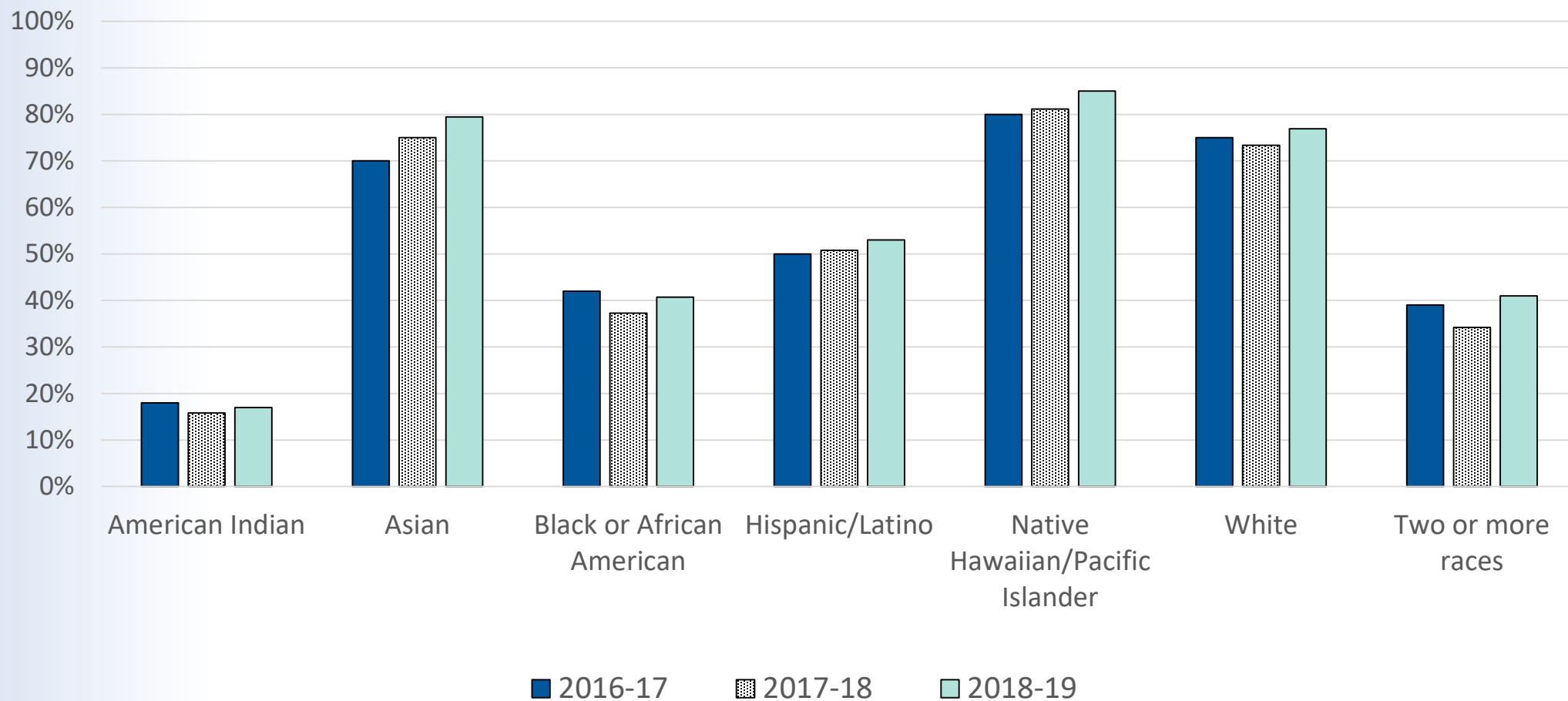Where is the concern occurring?

With what group is the concern occurring?

Data: Context

- To identify context, look at and disaggregate the data in different ways

- What data should you consider?

- How should you disaggregate the data?

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Activity: Mentimeter Word Cloud

Using the example in the previous slides, what data should you consider?

Data: Context (cont.)

- To identify context, look at and disaggregate the data in different ways

- What data should you consider?

- How should you disaggregate the data?
  – Delve into graduation rate by race or ethnicity and/or by disability category
  – Assess discipline data for high school SWDs
  – Consider early warning information to see if ninth grade SWDs are "on track"
  – Review attendance data for high school SWDs

Graduation Rate by Disability Category
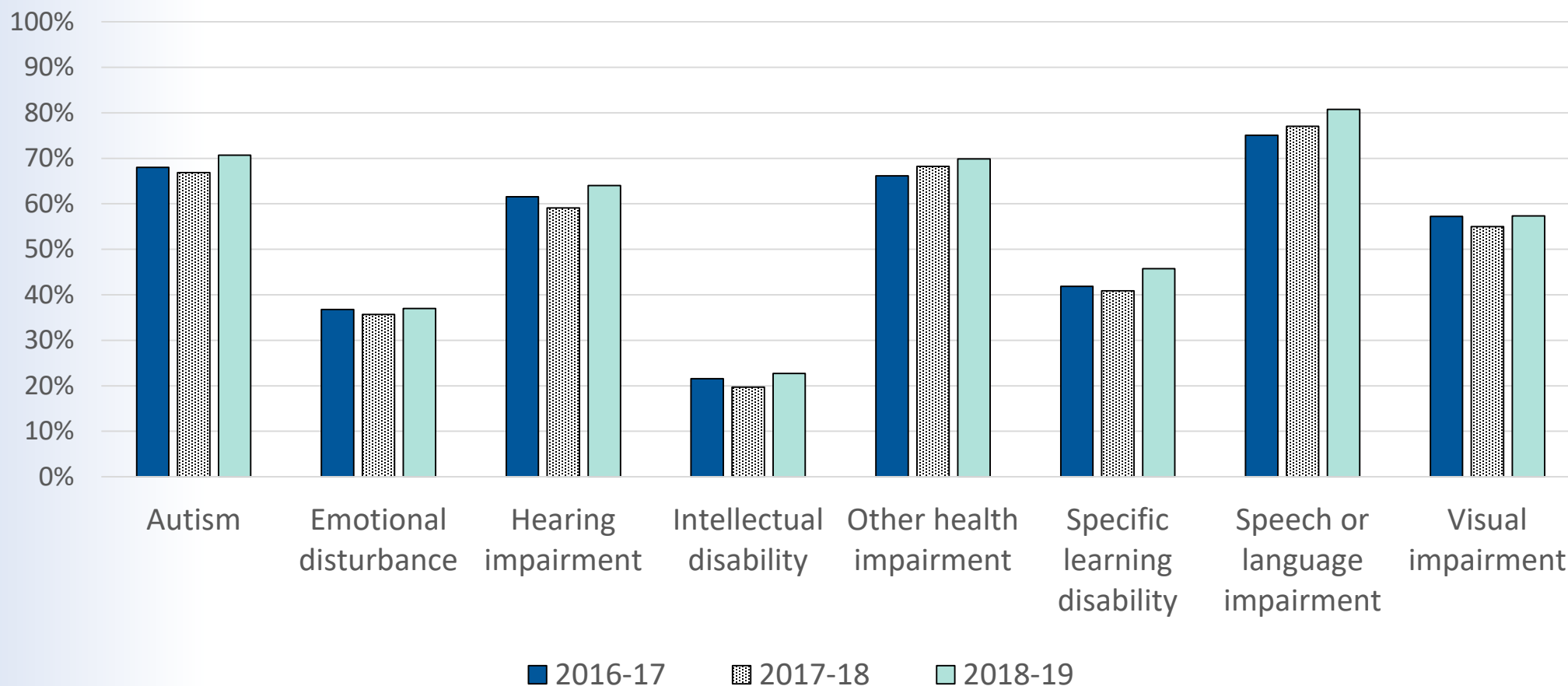
Graduation Rate by Race/Ethnicity

Decision: Context

Context

Disability area

Race/ethnicity

Initial Hypotheses
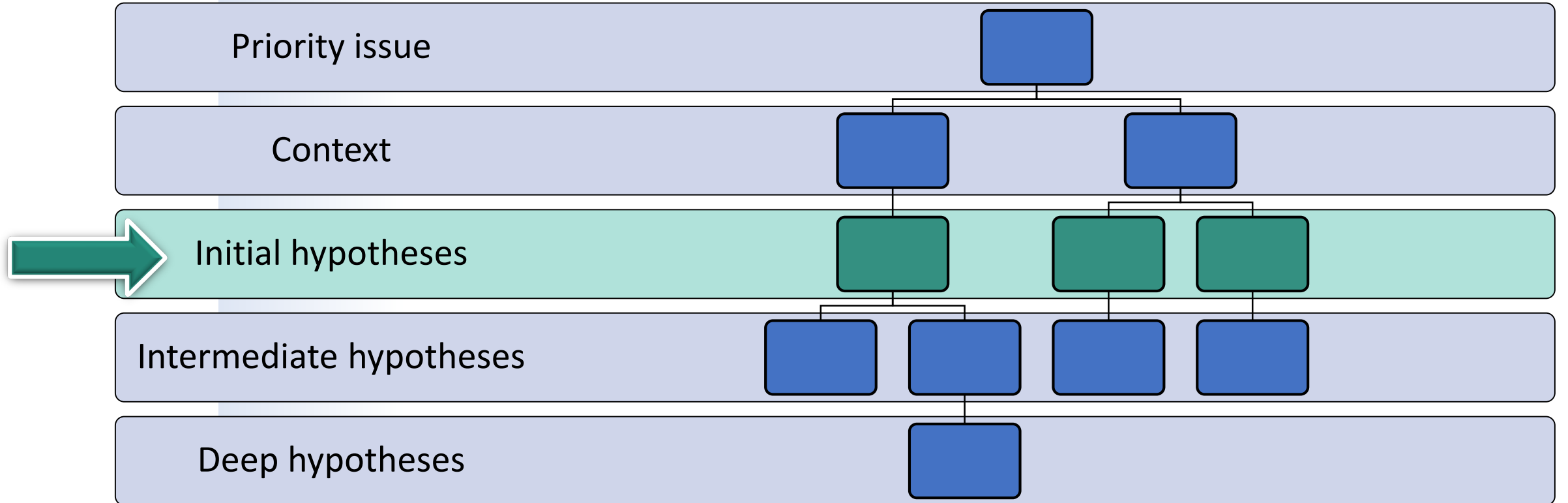
Process: Initial Hypotheses

Initial hypotheses

- Data-based decisionmaking
- Cultural responsiveness
- Core instructional program
- Assessment: Screening and monitoring
- Interventions and supports
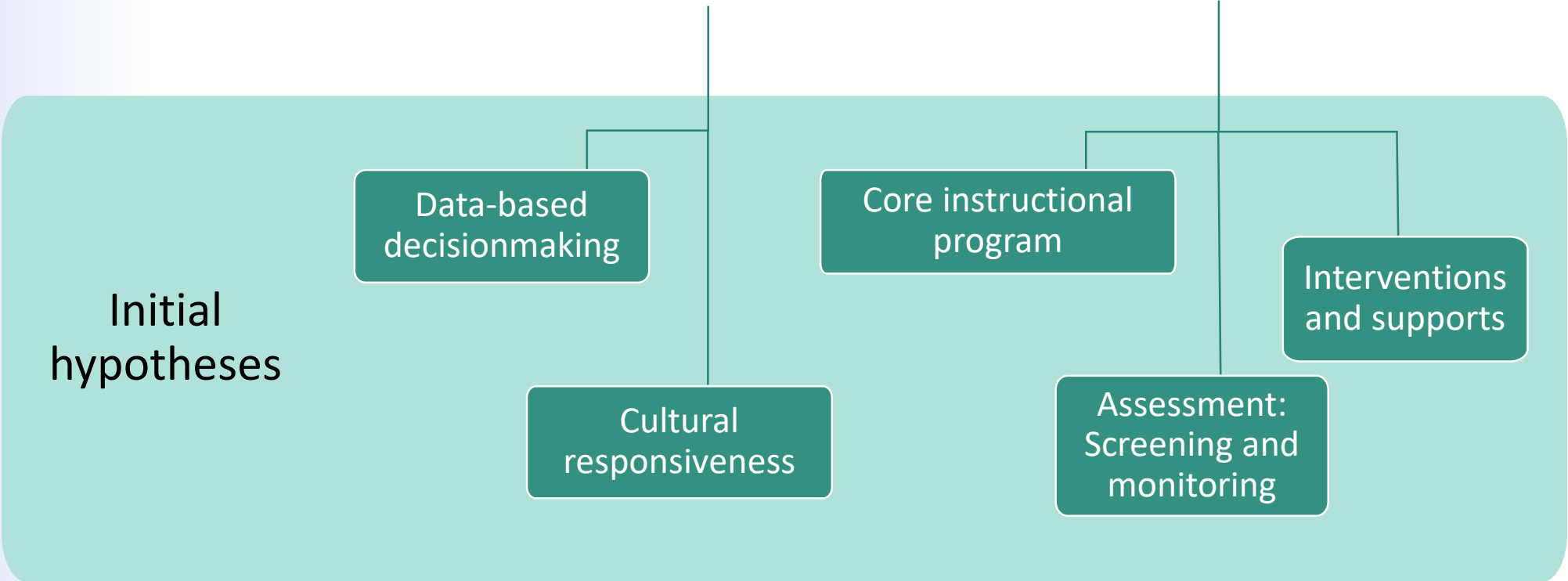
Data: Initial Hypotheses

- Consider
  - Curriculum
  - Instruction
  - Environment
  - Systems
  - Learner needs

- Focus on internal issues that are within the control of the school or district

- What could be contributing to low graduation rates?

Analysis Tool—Diagnostic Tree

Priority issue

Context

Initial hypotheses

Intermediate hypotheses

Deep hypotheses

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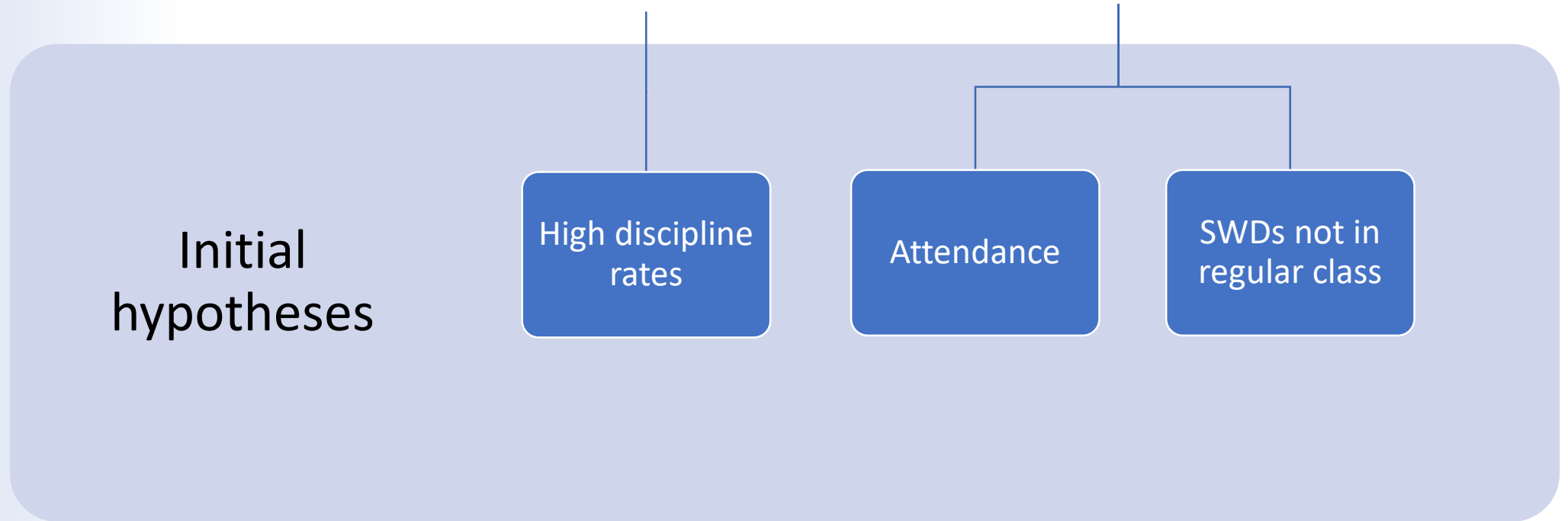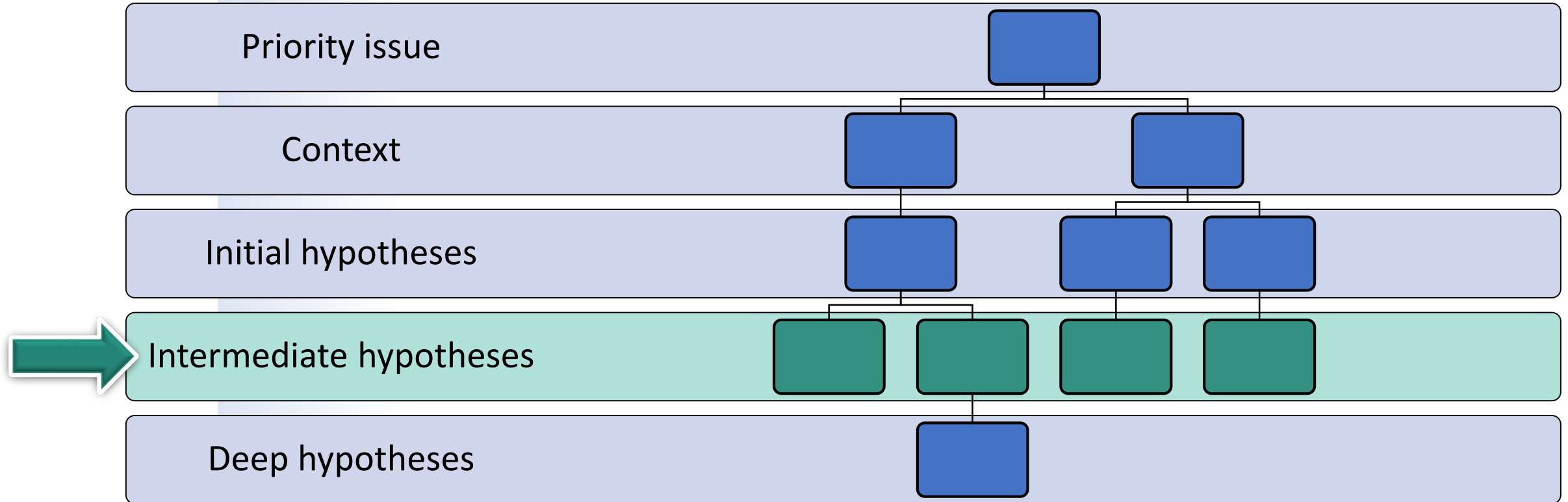
Process: Intermediate Hypotheses

Intermediate hypotheses

Confirm or disprove initial hypotheses

Use objective data when possible

Supplement objective data with experiential data

Confirm findings with broad stakeholder input
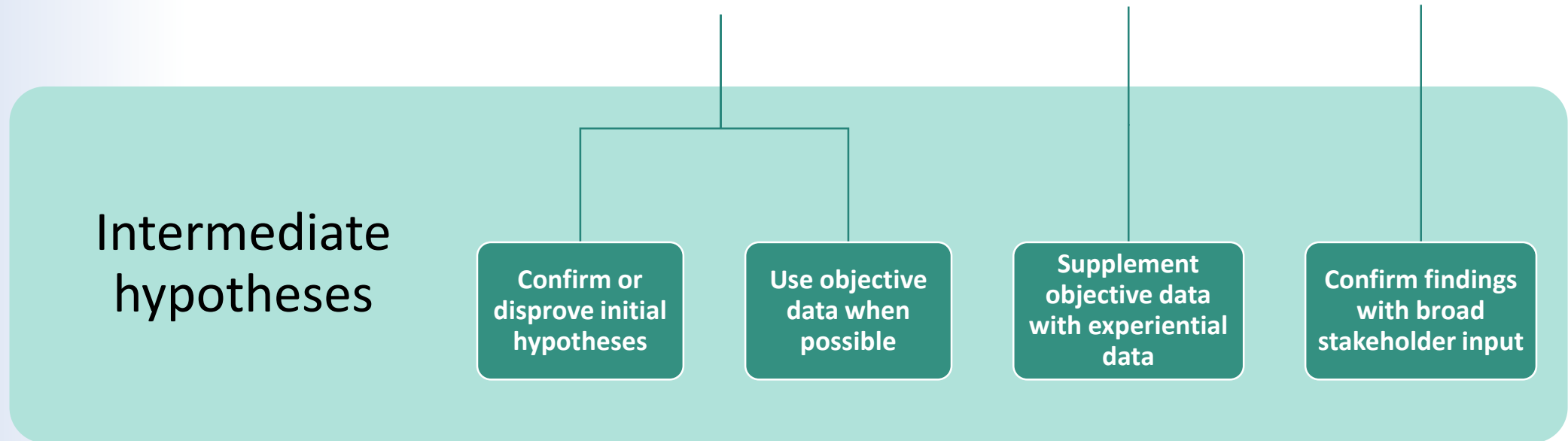
Data: Intermediate Hypotheses

- Review the data and determine whether the data support your hypotheses
  - Identify evidence to support your determination
- Identify at least one intermediate hypothesis that you would continue to investigate and what data you would need to continue your analysis

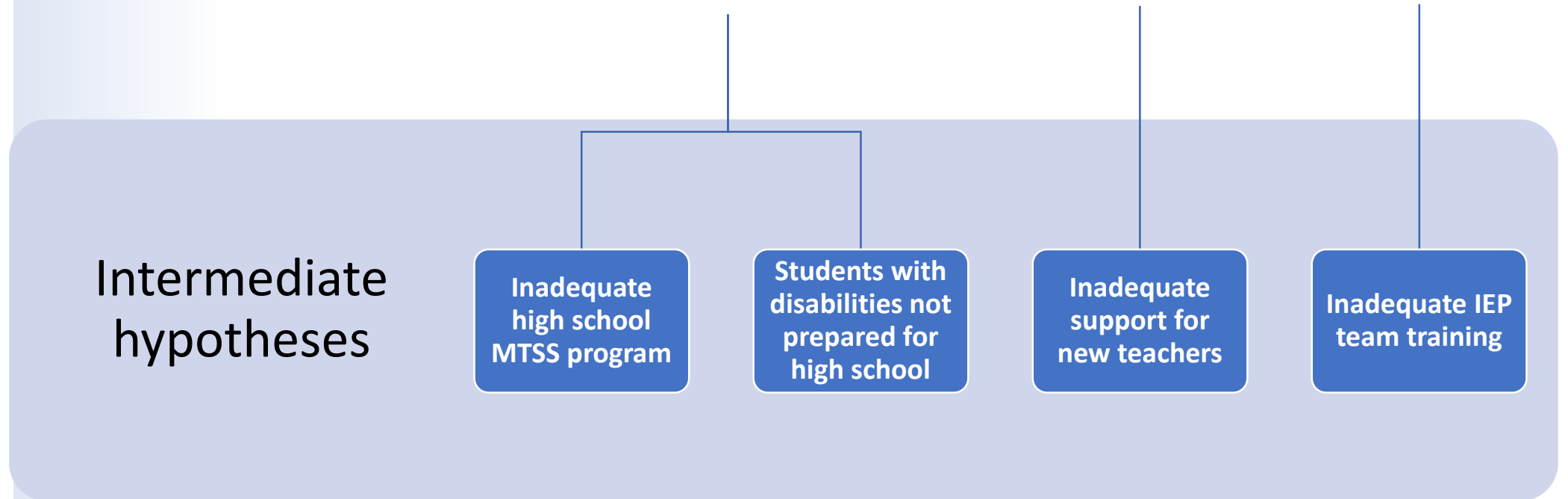# Discipline Data by Race/Ethnicity
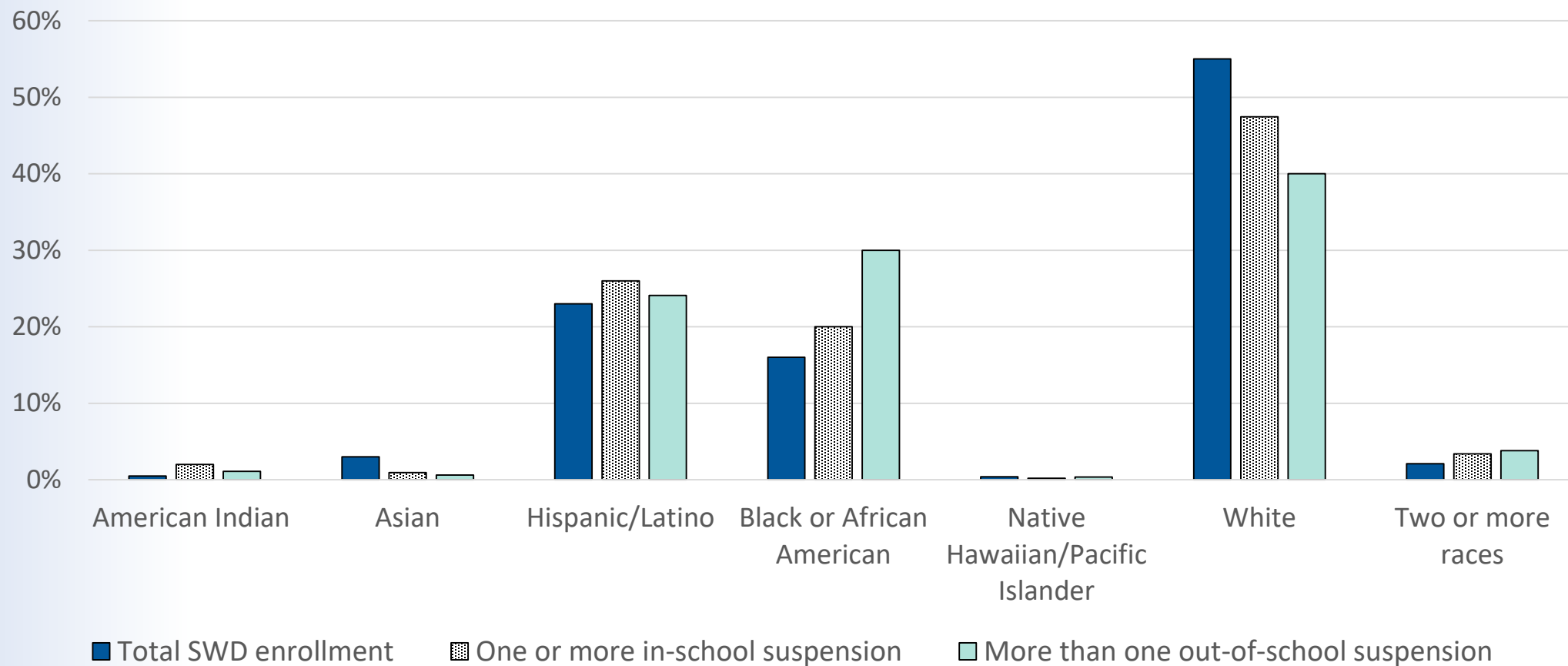
Attendance Data
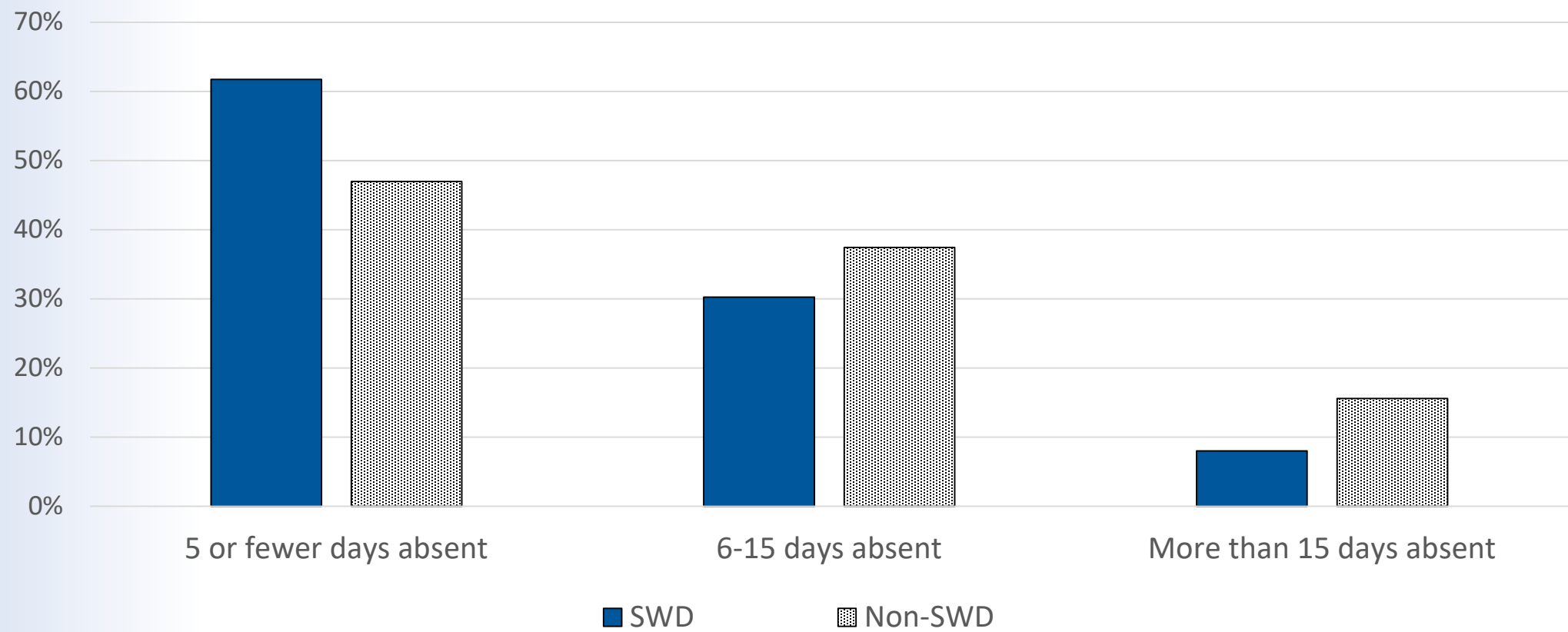
Educational Environments by Disability Category
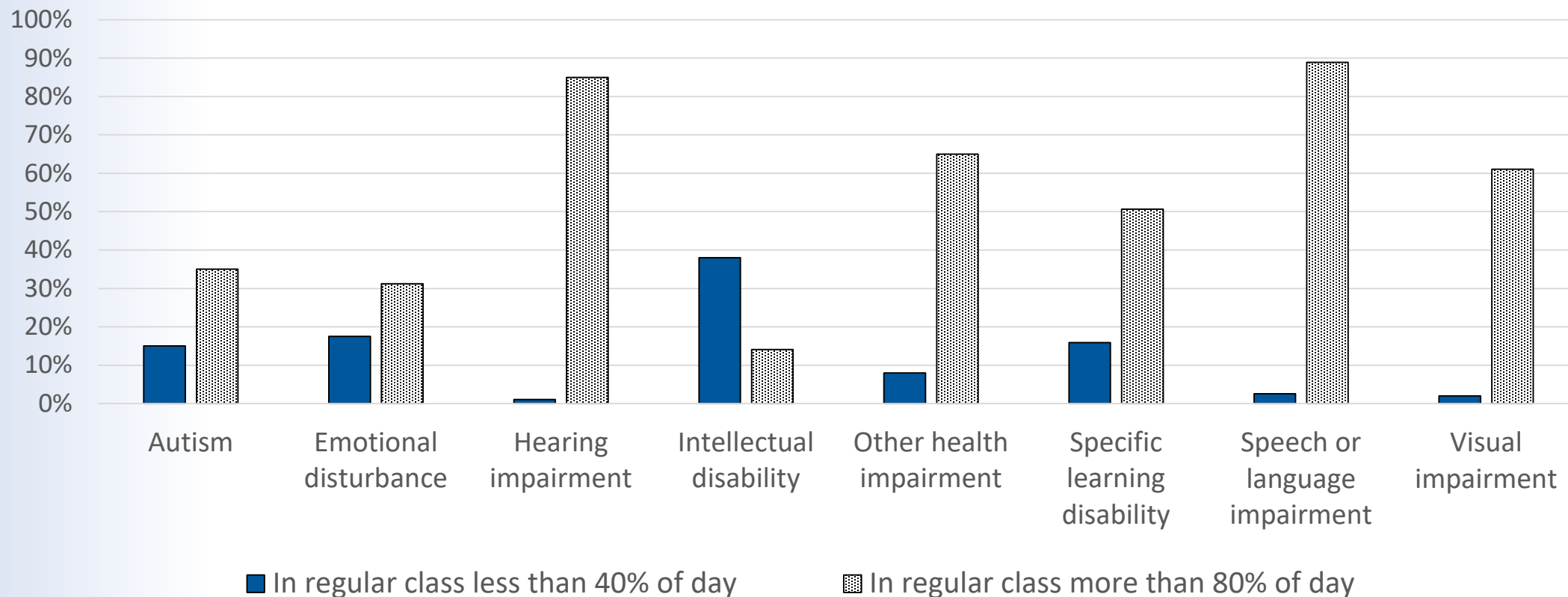
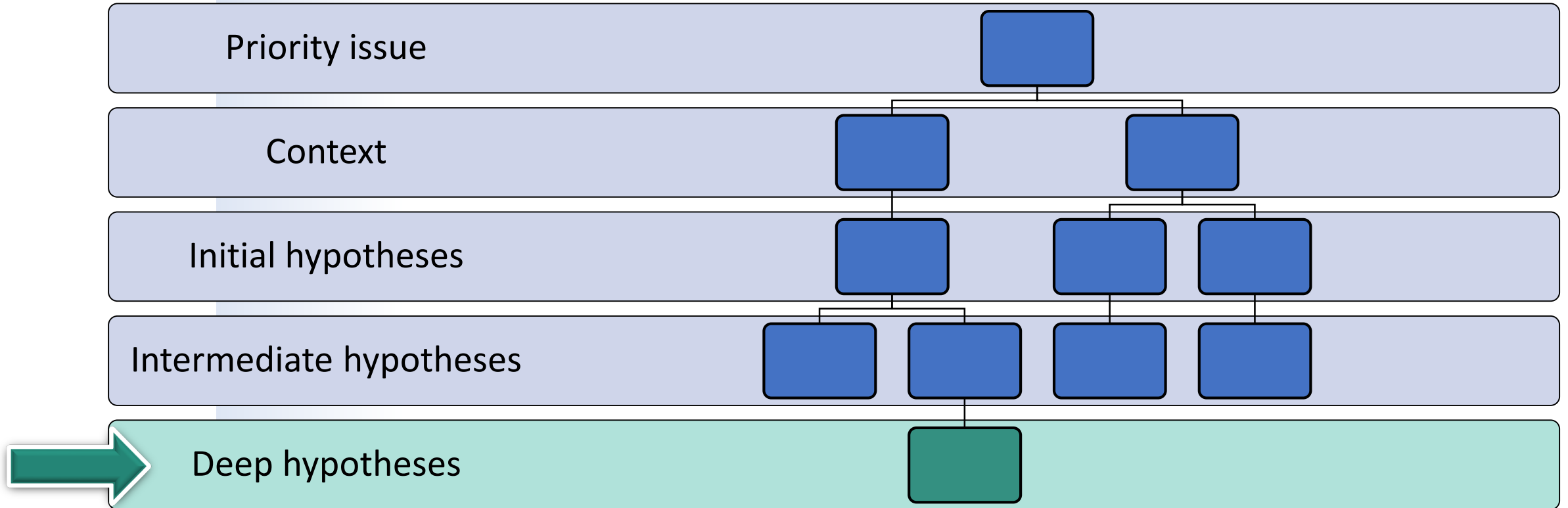# State Reading Assessment Proficiency Rates for SWDs
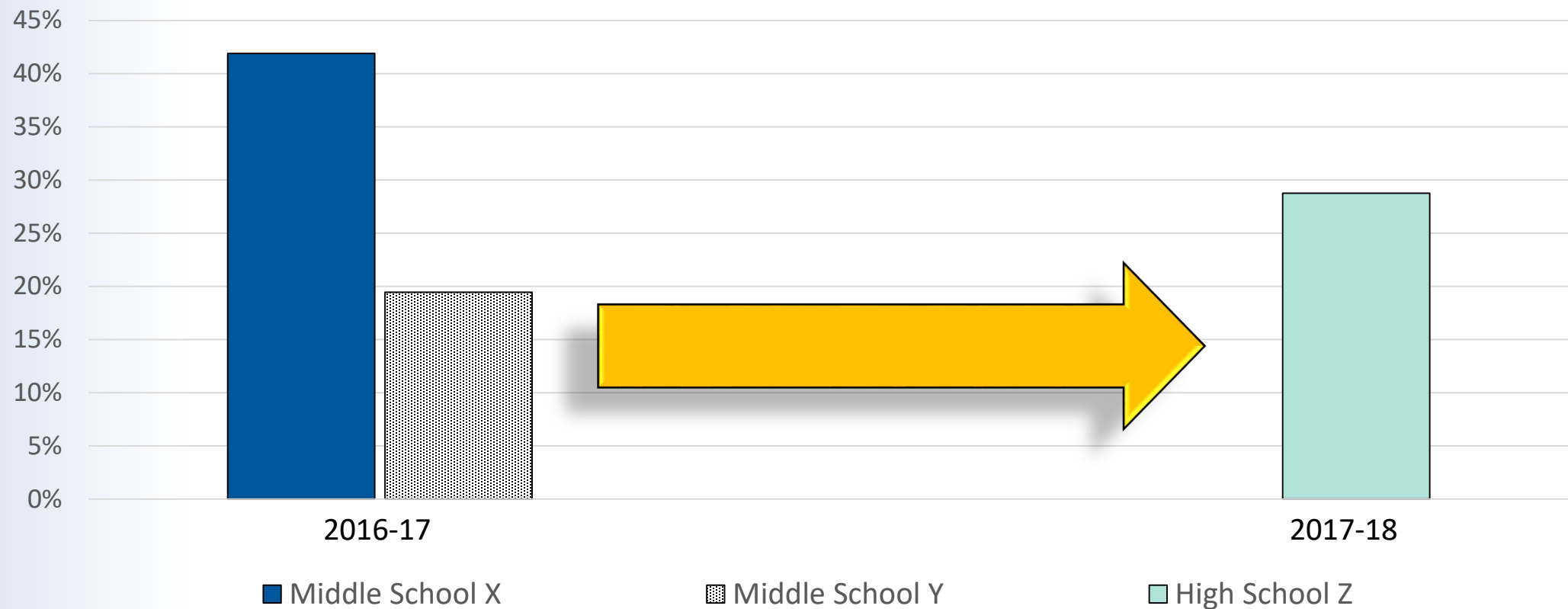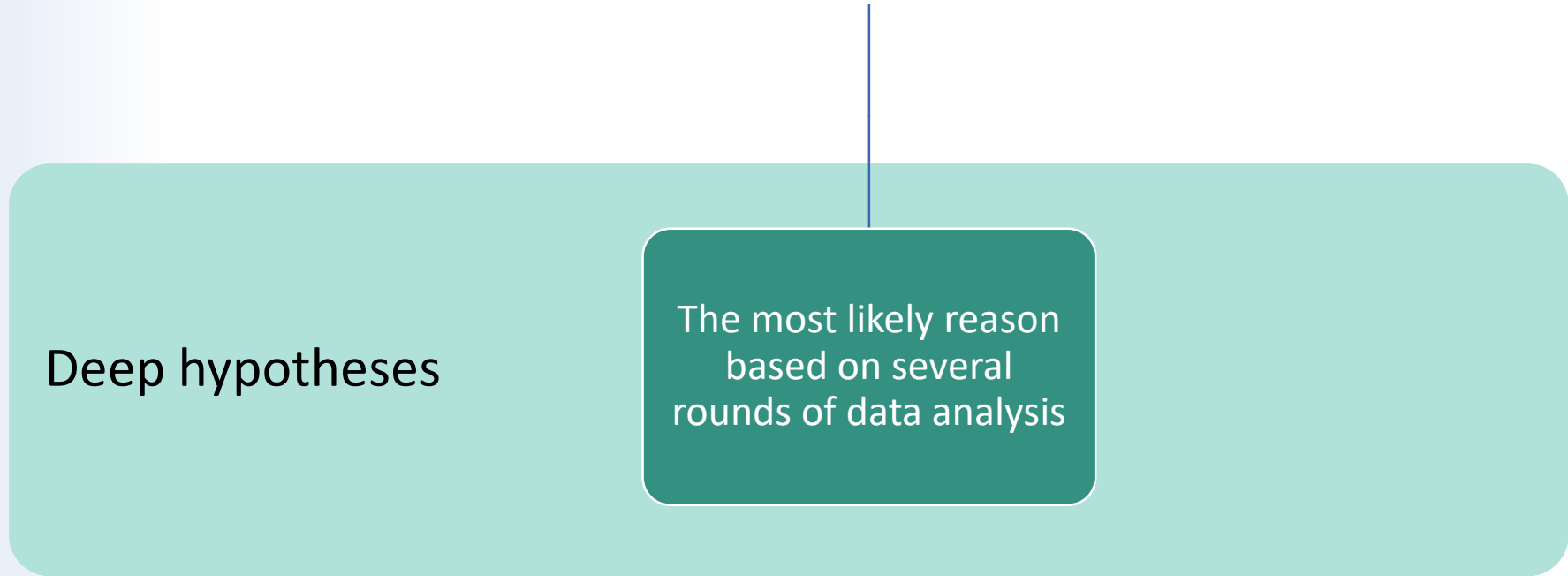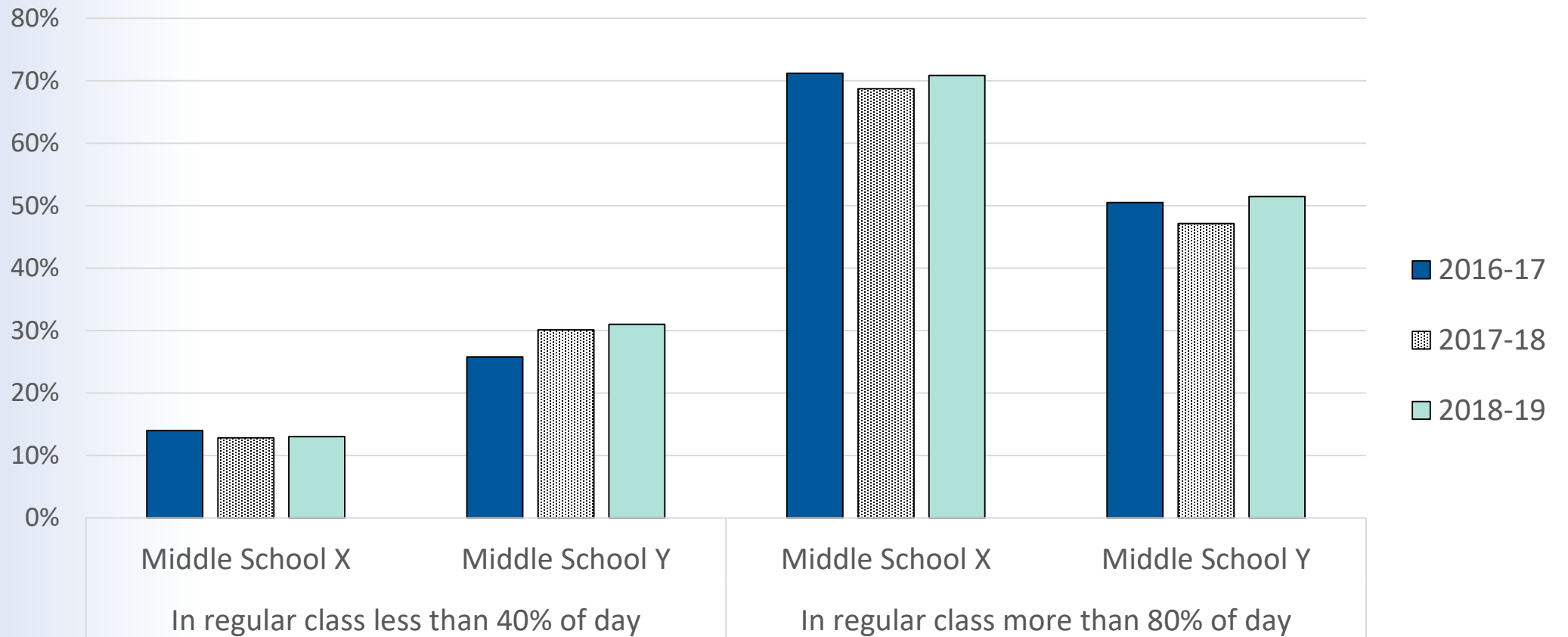
Decision: Intermediate Hypotheses

Intermediate hypotheses

- Inadequate high school MTSS program
- Students with disabilities not prepared for high school
- Inadequate support for new teachers
- Inadequate IEP team training

Multi-Tiered System of Support (MTSS)

Process: Deep Hypotheses

Deep hypotheses

The most likely reason based on several rounds of data analysis

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Data: Deep Hypotheses

- Review the data and determine whether the data support your hypotheses
  - Identify evidence to support your determination
- What other data do you need to finalize a deep hypothesis?

Deep hypotheses

Middle School Y general education teachers struggle with differentiating instruction for SWDs

Next Steps

- Continue the process of thinking about possible causes and investigate the data until you have reached the root of the problem

- Always confirm your hypotheses with a broad range of stakeholders

- Consider potential actions that would address the root cause(s) your deep hypotheses suggest

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State Example—Kansas

Lessons learned

Challenges

Successes

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State Example—Indiana

Lessons Learned

Challenges

Successes

Lessons Learned

State Example—Indiana (cont.)

- [The Indiana RDA Planning Tool](#)

- [RDA Guiding Document](#)

- Used to provide annual Determinations and Level of Differentiated Support and Technical Assistance

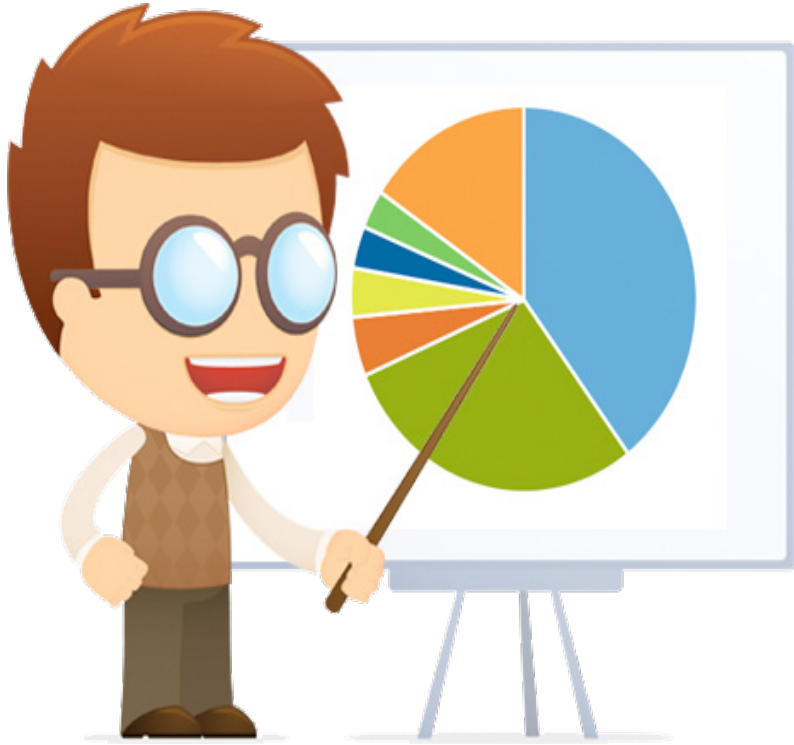# Data Levels of Analysis

STATE

SCHOOL SYSTEM

SCHOOL

CLASSROOM

STUDENT

Data Retreat: Data Levels of Analysis

- The level used is dependent on the information you are trying to gather

- Different indicators (variables) can be used at different levels

- For example: The Indiana Department of Education generally doesn't use the classroom data, but the data will be of great importance to an LEA or school-level administrator

Examples

Examples

	Schools			
Test Performance	**Co-Teaching**	**Resource Push-in**	**Para-professional**	**Resource Room**
Proficient	A3	B3	C3	D3
Approaching Proficiency	A2	B2	C2	D2
Not Proficient	A1	B2	C3	D1

Frequencies

Challenges

Challenges

- There is too much data in one place (for some LEAs).

- LEAs often do not have staff to take data to the next level.

- There is questionable quality of data submitted by LEAs.
  - Director of special education vs data specialist for corporation
  - Lack of data literacy or lack of communication

Successes
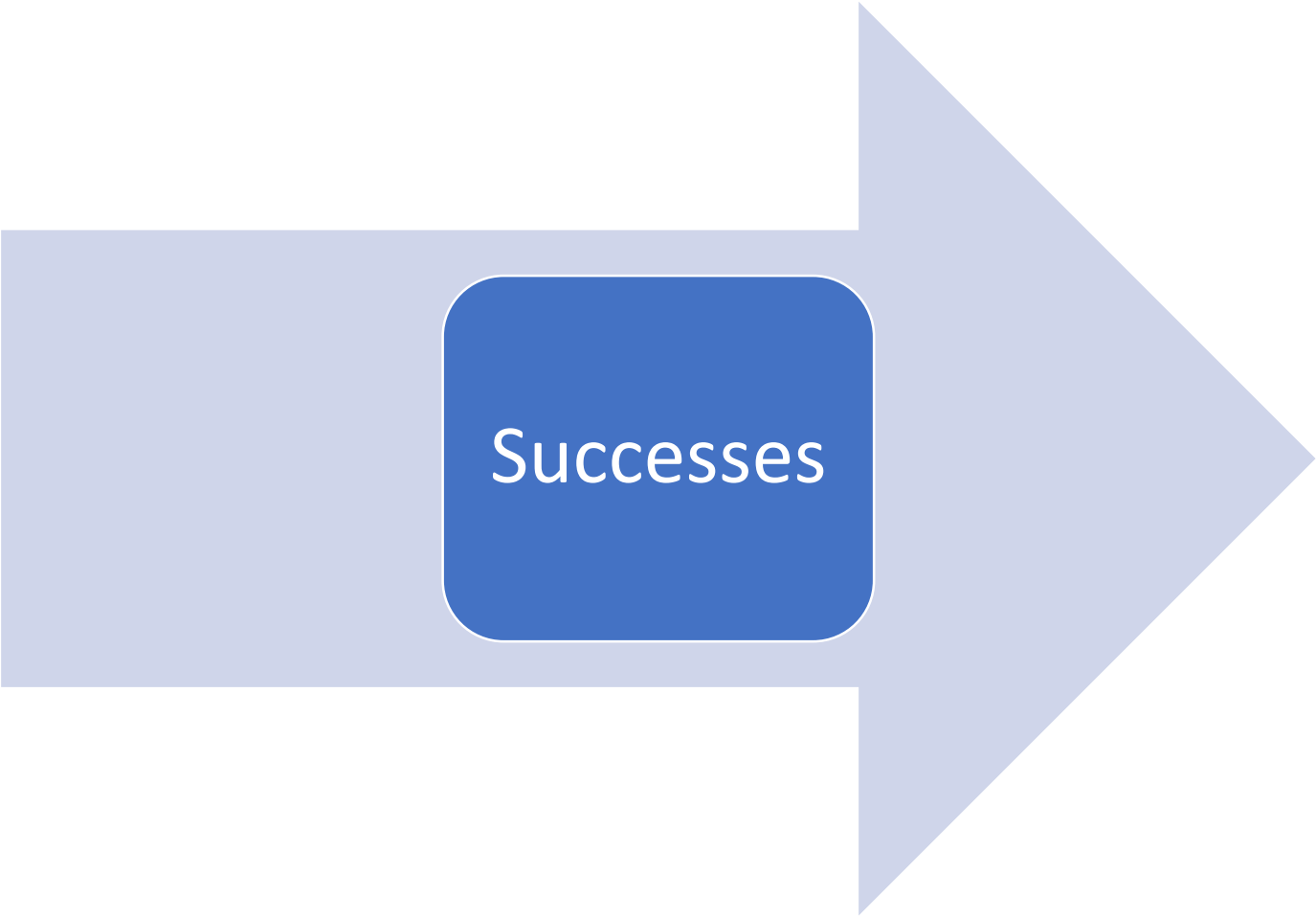
Successes

This root cause analysis process

- Provides comprehensive data (compliance and results), root cause analysis, and action plan in one place

- Organizes facilitated conversations

- Provides functionality and integration across tabs

- Provides trend lines for results data (3-8 years)

- Provides other formal notification (1% cap on alternate assessment)

- Provides technical assistance and professional development resources

Helpful Resources

- *Data Meeting Toolkit*
- *Success Gaps Toolkit*

Contact Us

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Project Officers: Richelle Davis and Rebecca Smith