

Data Use and Student Achievement: What Does the Research Say?

December 17, 2014

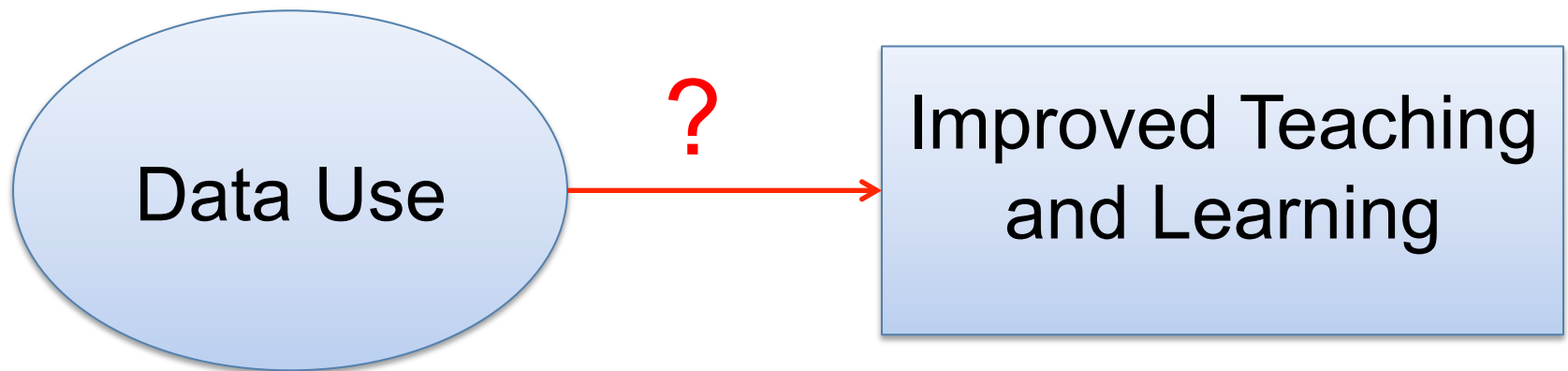
Ann-Marie Faria, Ph.D.
American Institutes for Research

What Are Data?



Student Data—Why Use Them?

- Systematic, regular assessment may be a key ingredient for school improvement.



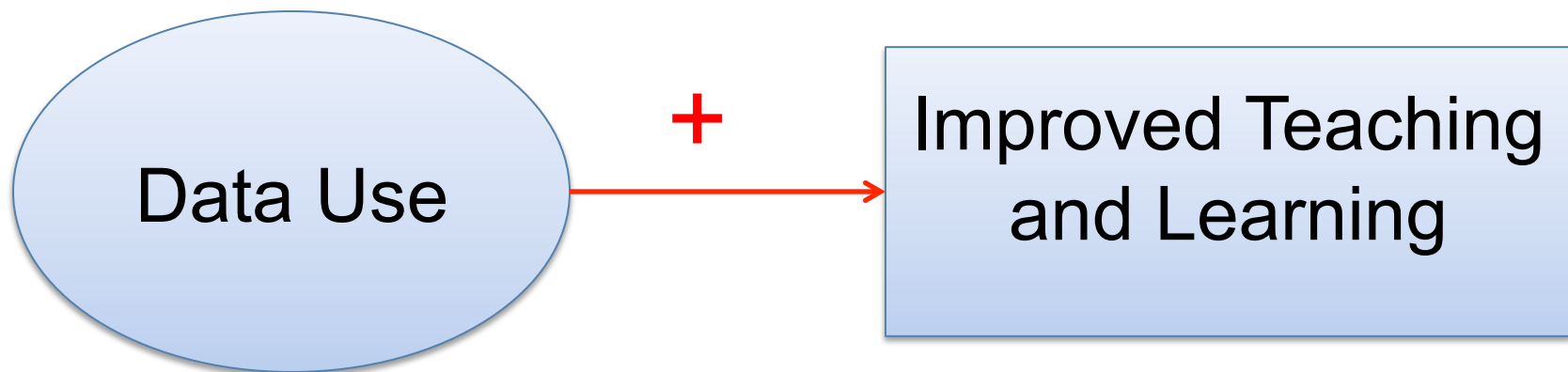
Mixed Evidence Connecting Data Use With Student Achievement



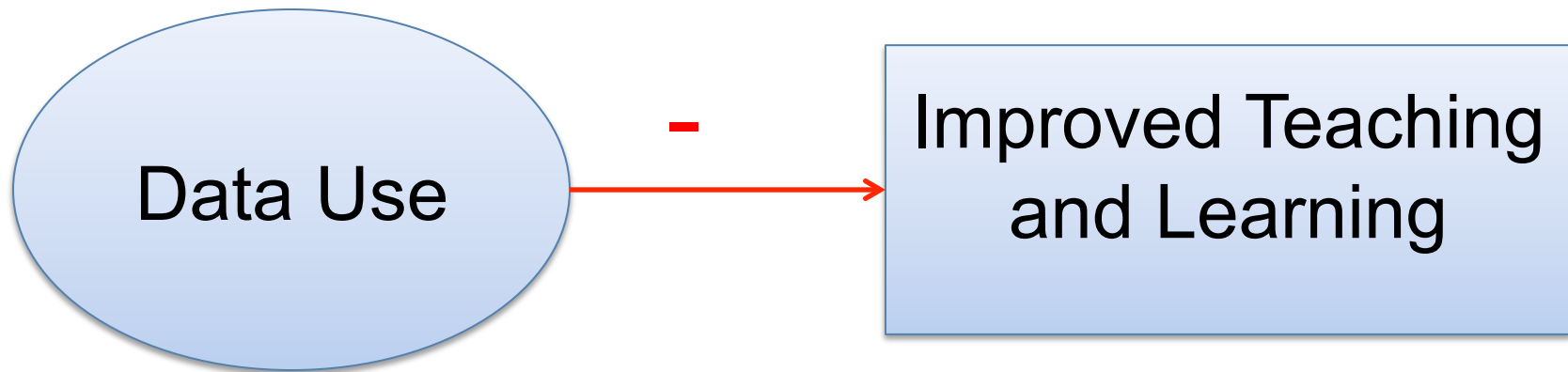
Data Use

**Improved Teaching
and Learning**

Mixed Evidence Connecting Data Use With Student Achievement

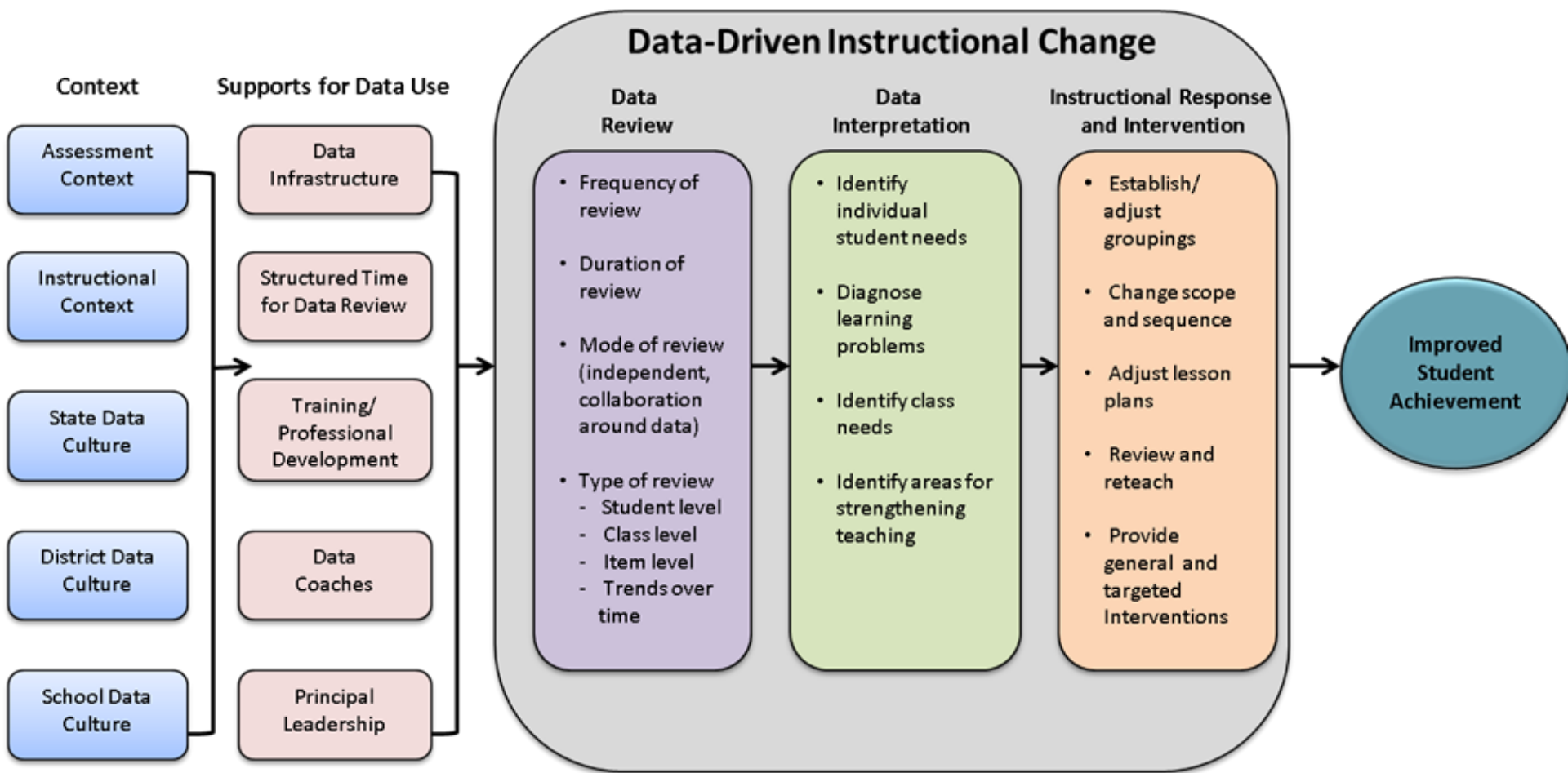


Mixed Evidence Connecting Data Use With Student Achievement



Understanding the Mixed Findings: How Do Educators Use Data?





Making Data Available in a Timely Fashion



Allowing Time for Teachers to Respond to the Data

ALVORD UNIFIED SCHOOL DISTRICT
2012-2013 AT-A-GLANCE PACING GUIDE

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MATH

1st grade

Fall Semester

August

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Teacher Work Day - No Students

Date Not in Instructional Window

Minimum Day

Holiday

End of Grading Period

Benchmark Data Due Date

Benchmark 1 Instructional Window: 8/13/12-10/12/12 Chapters 1-6

Chapter 1

(5 lessons)

Number Sense

Big Idea: When counting a group of objects, the last count word tells numbers in the group.

Chapter 2

(8 lessons)

Addition Concepts

Big Idea: Join addition problem situations involve action and change, and part-part-whole addition problem situations involve no action and no change.

Chapter 3

(8 lessons)

Subtraction Concepts

Big Idea: Subtraction problem situations include separating (take-away), comparing, and finding a missing part (part-part-whole).

Chapter 4

(5 lessons)

Understand Addition and Subtraction

Big Idea: Addition and subtraction are inverse operations.

Chapter 5

(6 lessons)

Addition Strategies to 12

Big Idea: Basic fact strategies for addition are based on number relationships.

Chapter 6

(5 lessons)

More Addition Strategies to 12

Big Idea: Basic fact strategies for addition are based on number relationships.

Essential Standards

Item

Count

Std Weight

NS 1.1

Count, read, and write whole numbers to 100.

3

14%

NS 1.2

Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than ($<$, $=$, $>$).

3

14%

NS 1.3

Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as $4 + 4$, $5 + 3$, $2 + 2 + 2 + 2$, $10 - 2$, $11 - 3$).

3

14%

NS 2.1

Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.

3

14%

NS 2.5

Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).

4

18%

AF 1.1

Write and solve number sentences from problem situations that express relationships involving addition and subtraction.

3

14%

SDAP 1.2

Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs.

3

14%

Grading

Marking Period

8/13/12 - 10/12/12

10/15/12 - 11/19/12

11/22/12 - 12/20/12

Progress 1

8/29/12 - 10/5/12

10/5/12

Progress 2

10/31/12 - 11/9/12

11/9/12

Fall Semester

8/13/12 - 12/20/12

12/20/12

Benchmark 2 Instructional Window: 10/15/12-12/20/12

Ch: 7, 8, 10, 11, 13, 14

Chapter 7

(5 lessons)

Subtraction Strategies to 12

Big Idea: Basic fact strategies for subtraction are based on counting back and the inverse relationship between addition and subtraction.

Chapter 8

(8 lessons)

Relate Addition and Subtraction to 12

Big Idea: Addition and subtraction are inverse operations.

Chapter 10

(6 lessons)

Place Value to 100

Big Idea: Sets of ten can be thought of as single entities and these sets can then be counted and used as a means of describing quantities.

Chapter 11

(8 lessons)

Comparing and Ordering Numbers

Big Idea: The relative magnitude of numbers - size relationship one number has with another - is determined by comparing and ordering numbers.

Chapter 13

(6 lessons)

Addition Facts and Strategies to 20

Big Idea: Basic fact strategies for addition are based on number relationships.

Chapter 14

(5 lessons)

Subtraction Facts and Strategies to 20

Big Idea: Basic fact strategies for subtraction are based on counting back and the inverse relationship between addition and subtraction.

Essential Standards

Item

Count

Std Weight

NS 1.2

Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than ($<$, $=$, $>$).

3

14%

NS 1.3

Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as $4 + 4$, $5 + 3$, $2 + 2 + 2 + 2$, $10 - 2$, $11 - 3$).

3

14%

NS 1.4

Count and group object in ones and tens (e.g., three groups of 10 and 4 equals 34, or $30 + 4$).

3

14%

NS 2.1

Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.

3

14%

NS 2.2

Use the inverse relationship between addition and subtraction to solve problems.

3

14%

NS 2.5

Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).

4

18%

AF 1.1

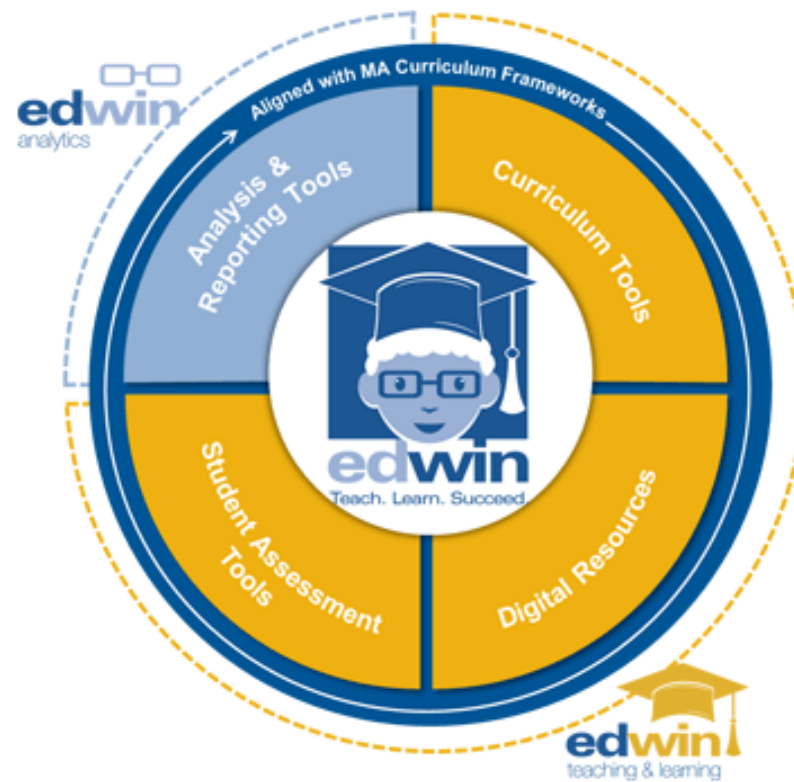
Write and solve number sentences from problem situations that express relationships involving addition and subtraction.

3

14%

ISS /CURRICULUM AND INSTRUCTION

Helping Educators Translate Numbers Into Lesson Plans

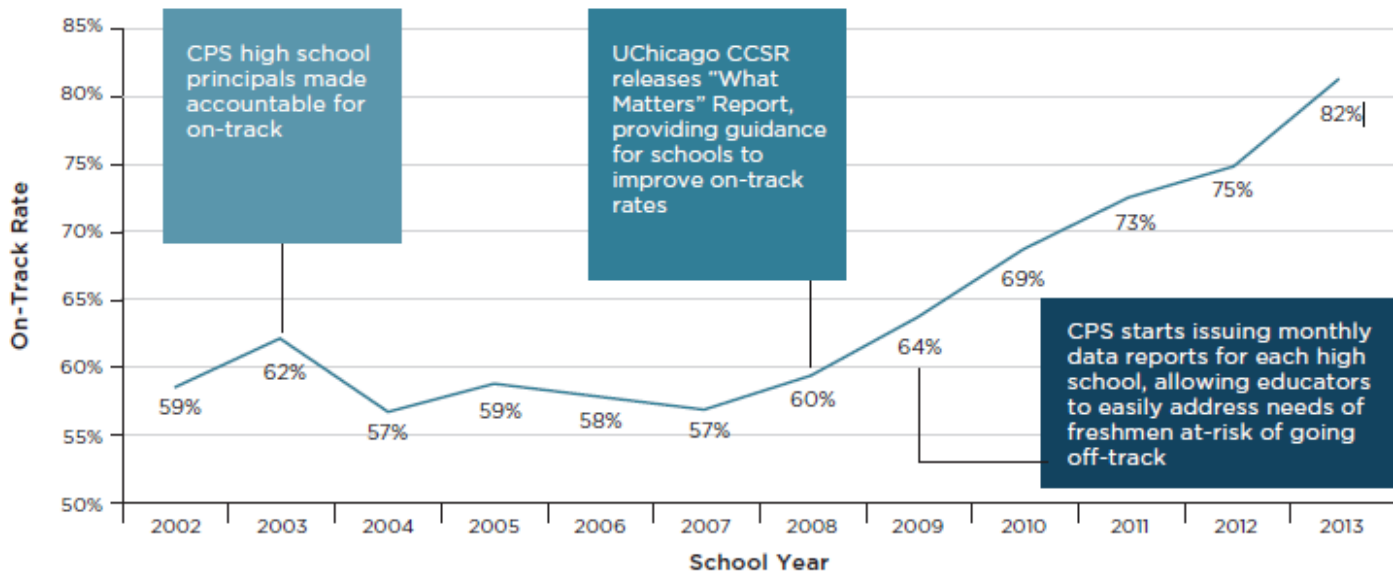


<http://www.doe.mass.edu/edwin/>

Preventable Failure: Improvements in Long-Term Outcomes When High Schools Focused on the Ninth-Grade Year

FIGURE 1

Ninth grade on-track rates improved most when schools acted on real time data about student absences and course performance



Note: This figure represents first-time freshmen who are not receiving special education services and are not enrolled in a charter or alternative school.

<http://ccsr.uchicago.edu/sites/default/files/publications/On-Track%20Validation%20RS.pdf>

Superficial Data Use

- Labeling students without intervening



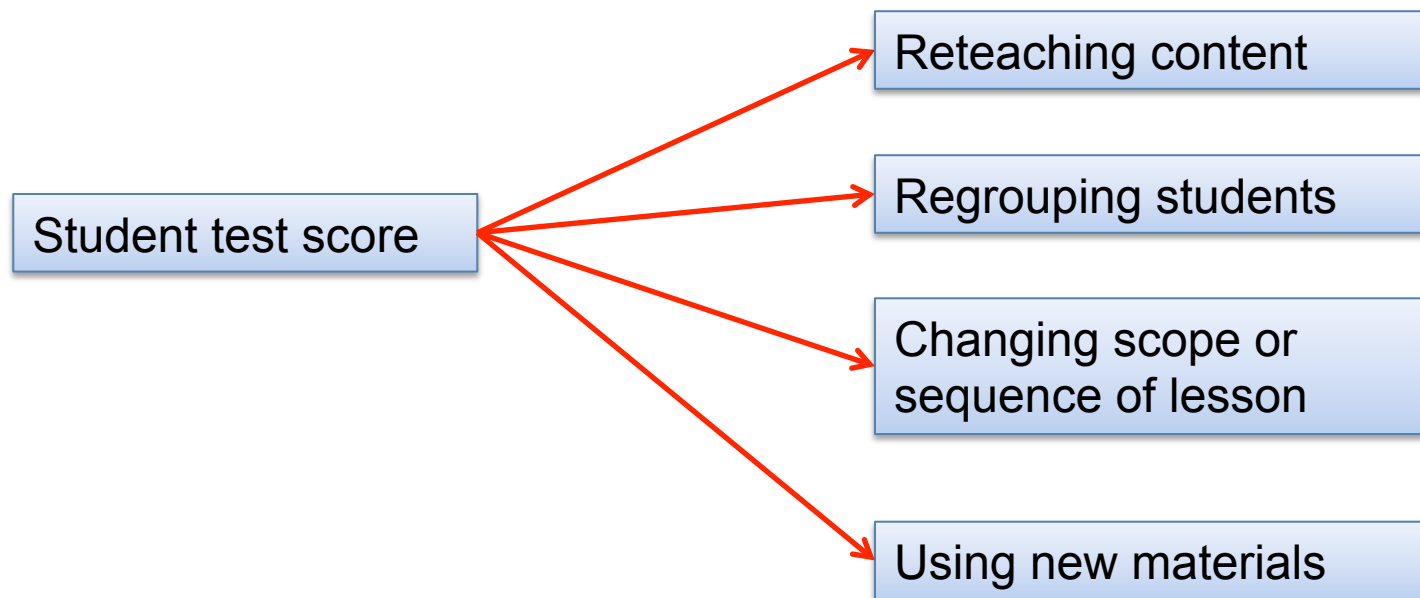
Superficial Data Use: Data Walls

- Data walls



Superficial Data Use

- Data review without instructional change



Thank you

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