



c a v e o n TM

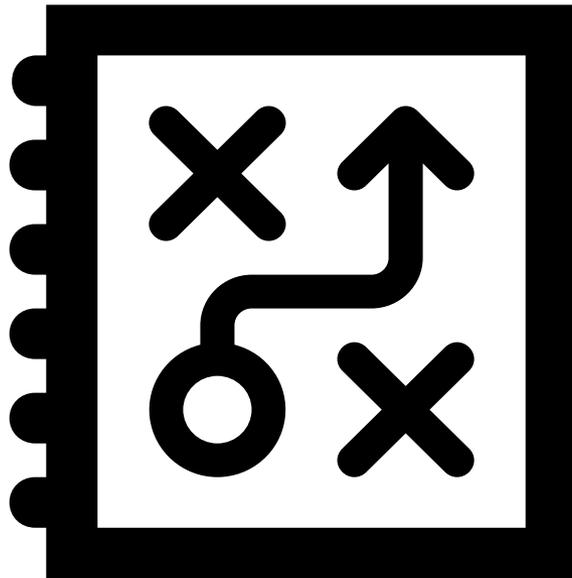
Using Data Forensics to Drive Test Administration Practices

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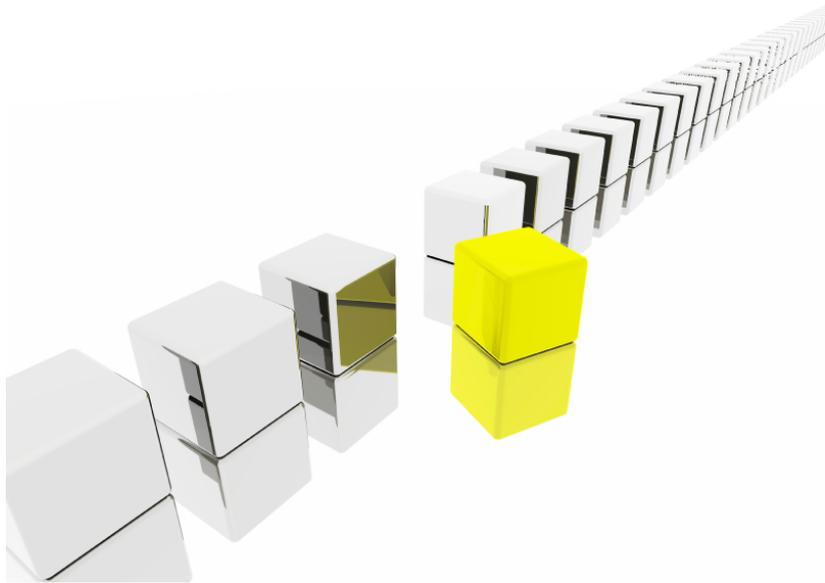
Session Objectives:



At the end of this session, participants will be able to:

- Articulate how state assessment results are used to make important decisions about student progress
- Provide a general definition of data forensics and its use in detecting testing irregularities
- Identify test administration practices that support fair test results for all students

Menti-Meter



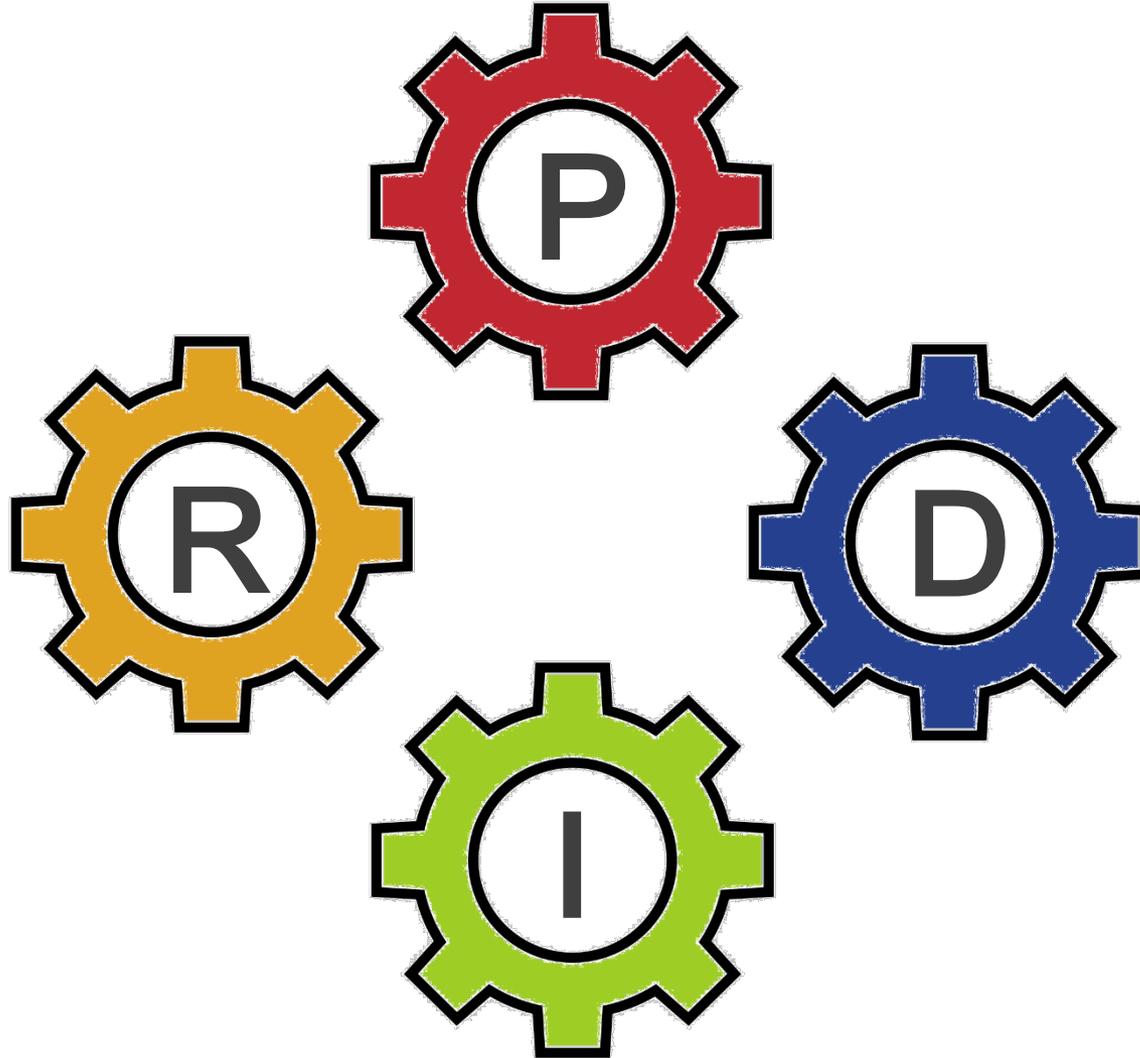
- A way to gather feedback
- Collaborate
- Expressing ideas
- Test for understanding

How are student test results used?

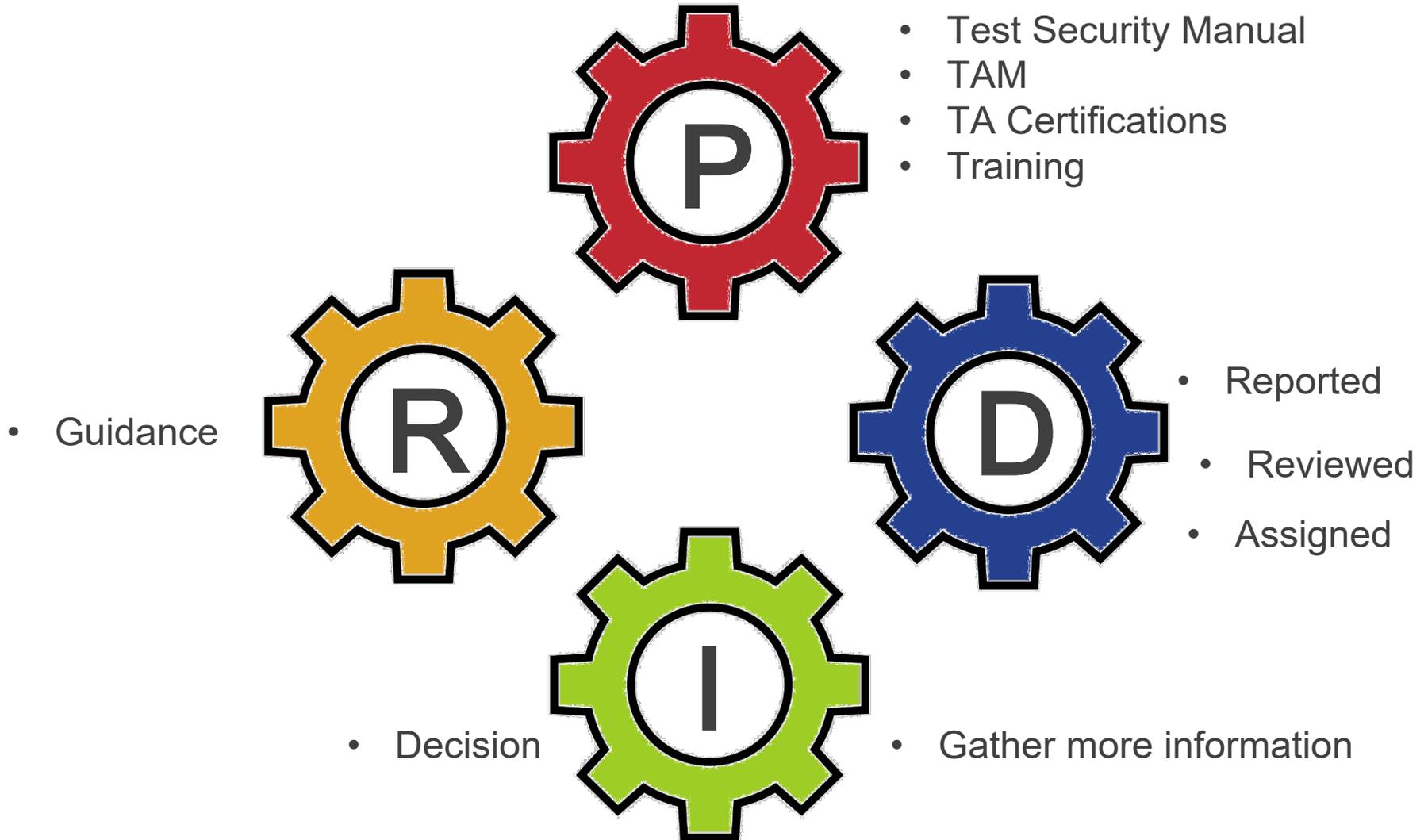
- Monitoring student achievement over time
- Measuring the effectiveness of content standards, and
- Supporting teaching and learning goals

BOTTOM LINE: If test results are used to make important decisions, then they should be as accurate as possible to direct the right instruction.

MontCAS Test Security (PDIR Model)

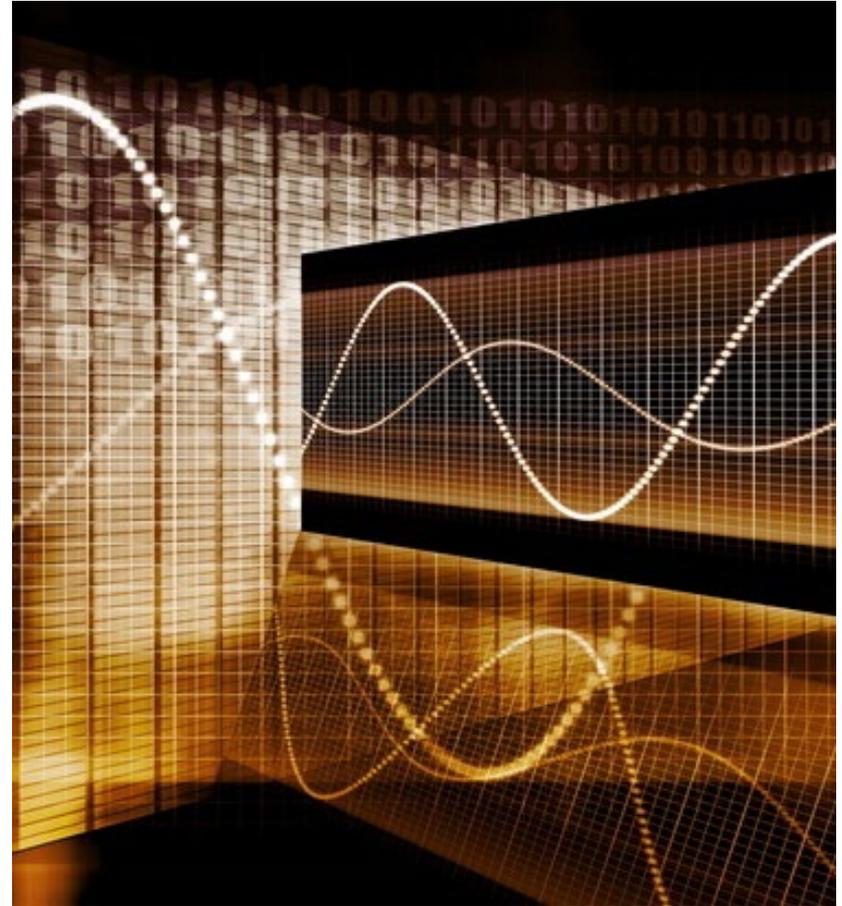


Here's an example...



Examples of Current Data Integrity Practices in MT

- Annual STC Debrief Form (Renewal Units)
- Participation TA monitoring
- Collection monitoring (AIM, TSAs, Testing Plans, etc.)
- Site Visits (assessment observations)



A large, 3D-rendered grey question mark is centered on the slide. The text is overlaid on the middle part of the question mark.

What about outside Data Detections ?

Why Caveon exists....

We fundamentally believe in quality testing and the importance of trustworthy test results.



A Quick Caveon Overview

- **Our Mission:** To help protect the integrity and health of high stakes testing programs
- **Services:**
 - Security Consulting
 - Caveon Data Forensics
 - Web Patrol
 - Technology services –
 - TestScorpion/SEI/CaveonCore
 - Security Investigations



Statistical analyses of candidate test/item level response data

Who took the test honorably?

Which scores are trustworthy?

Identify **EXTREMELY** unusual behaviors with potential of ***unfair advantage***:

- **Similarity**
- **Cluster analysis**
- **Identical, perfect tests**
- **Fast Time / High Score**
- **Inconsistent response patterns**
- **Inconsistent timing**
- **Abnormal wrong-to-right answer changes**



Conducted data forensic analysis of the Spring 2019 school year

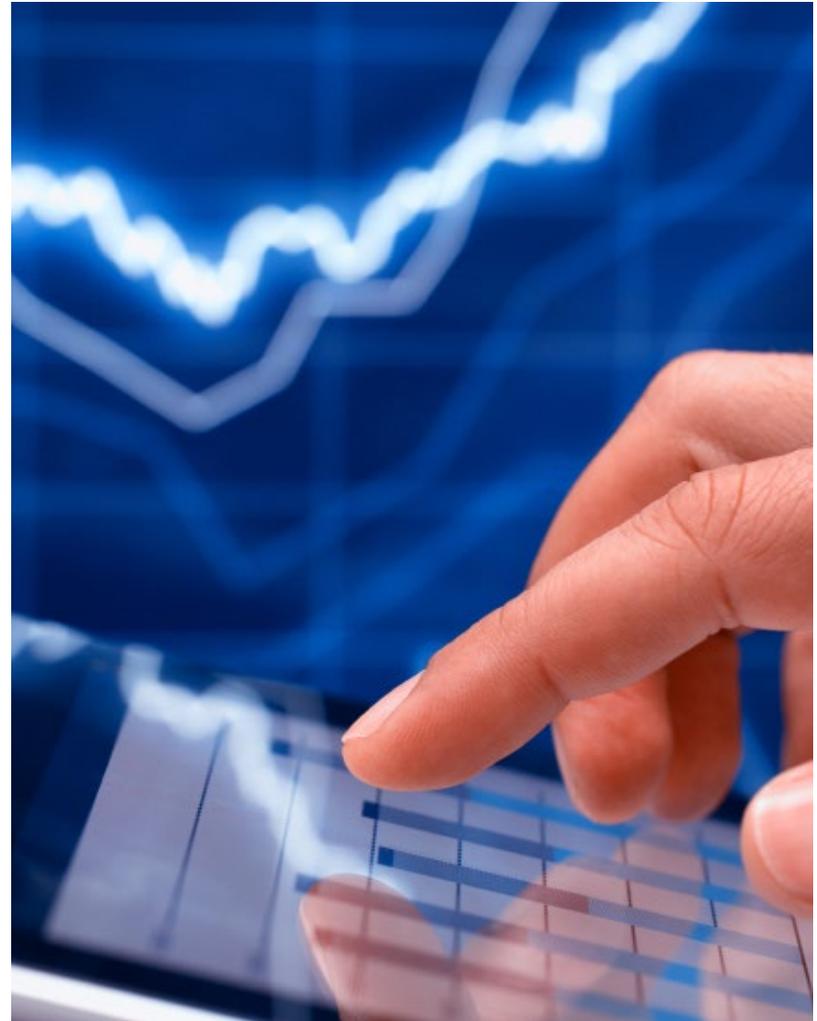
Grades 3-8, ELA and Mathematics

- 135,730 test instances administered at 640 schools in 302 districts were analyzed.

The Short Pause and Pause-Duration security statistics identified thirteen (13) schools with possible security violations.

The Accommodation Statistics identified five (5) schools with possible security violations.

Two (2) schools had a high rate of item revisits with associated pass rate gains.

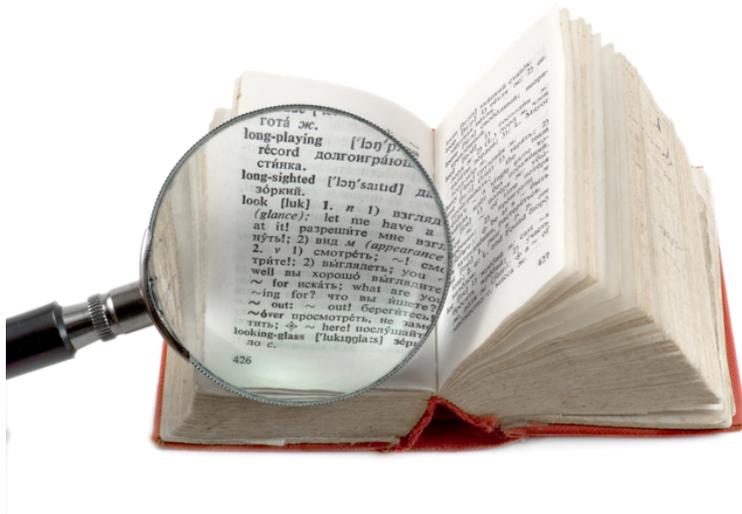


Two ways to look at these results:

1. Could be inappropriate test administration practices
 - Teachers thinking they are helping students, but they are not.
2. Could be based on best practices that could be used, particularly at the lower grade levels.



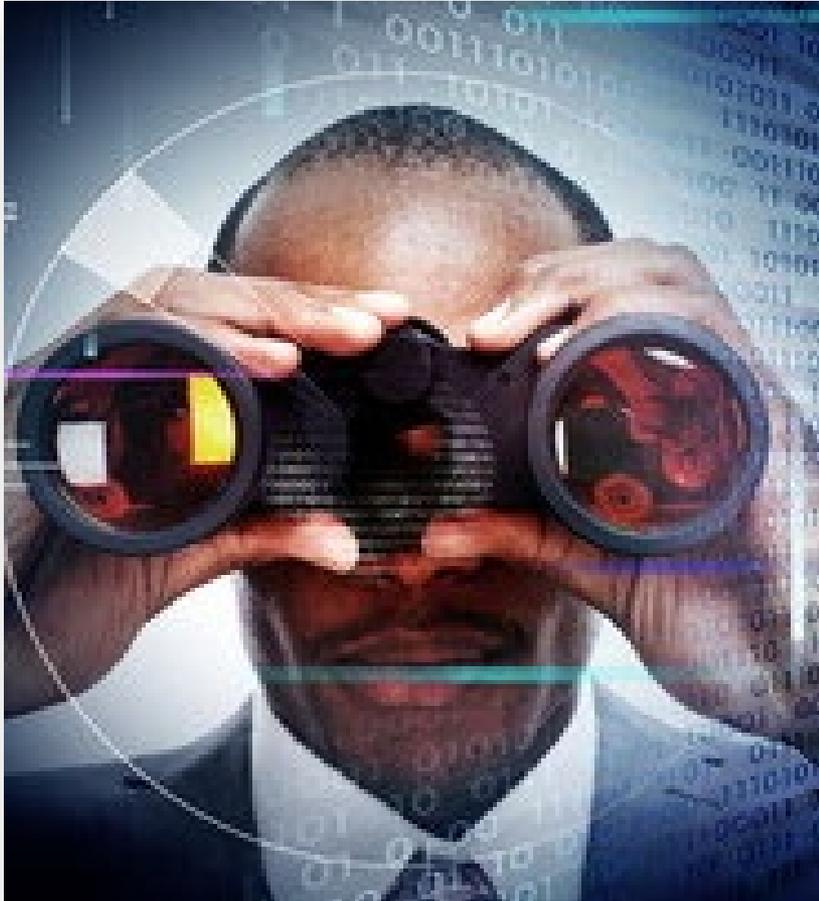
Taking a closer look...



What might have occurred during test administration?

- Educators review answers and coach students to change the answers to items they have previously answered
- Small breaks allow for potential collaboration, collusion, and/or obtaining unauthorized information to help answer test questions
- Educators instruct students take breaks after each item is answered to review for correct responses
- Inappropriate support for students whom do not need accommodations

Taking a closer look...



What might have occurred that were good things?

- Giving younger students a much-needed break, reducing test fatigue
- Giving students stretch breaks to allow students to refocus on the assessment
- Giving students appropriate accommodations
- Making a correction by intervening on inappropriate test administration practices

How can testing irregularities be extinguished?



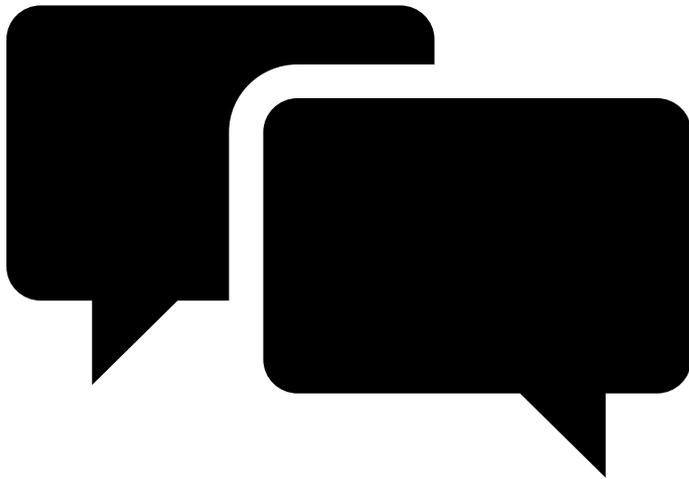
- Establishing and implementing strong local test administration protocols
- Review of the protocols annually
- Independent proctors and monitors during statewide testing
- Focus on improvement; showing a reduction in irregularities year-over-year

What are some other ideas?



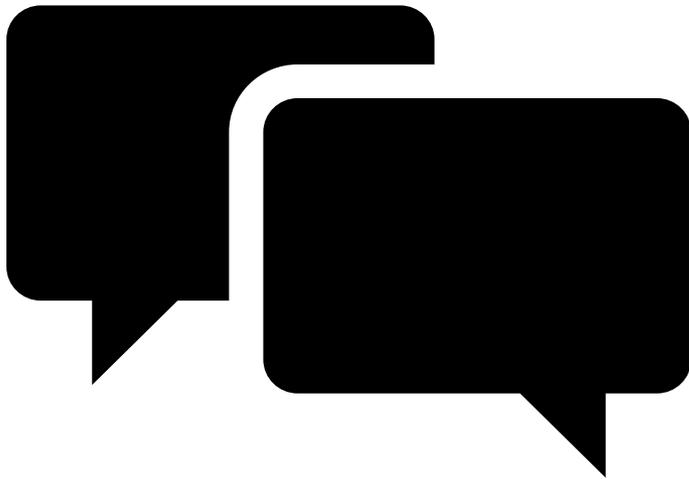
Let's Practice!

Scenario #1



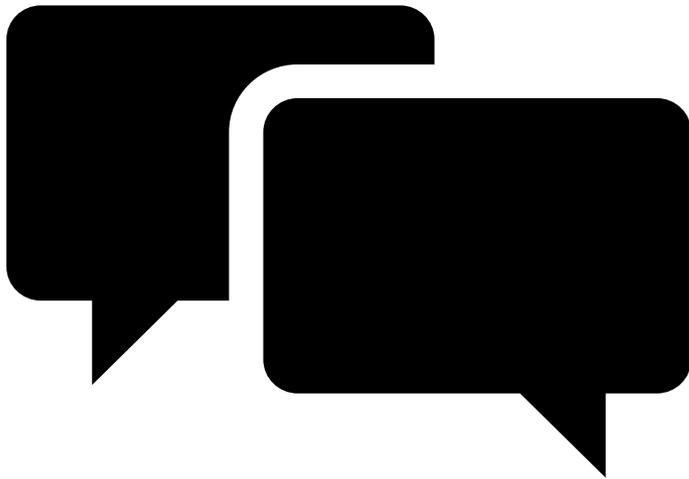
- You see student who has been given extra time on a Third Grade Math test.
- Is this a potential irregularity? If so, how?

Scenario #2



- A class of students takes a recess break during a test administration of their 3rd Grade ELA assessment.
- Is this a potential irregularity? If so, how?

Scenario #3



- A teacher is wandering around the classroom watching her students take the 7th Grade Math assessment.
- Is this a potential irregularity? If so, how?

A photograph of a diverse group of business professionals sitting in a conference room. Several people have their hands raised, indicating they want to ask a question or make a point. The scene is brightly lit, likely from large windows in the background. The overall atmosphere is professional and interactive.

Questions?



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