

ECID - Enhancing Classroom Instruction using Data

Cory Stokes, Paul Ashby, and Clint Stephens
Southwest Educational Development Center



Agenda, Day 1

- Door Prizes - 8:55 AM - 9:00 AM
- Introduction & Overview of the ECID Grant - 9:00 - 9:30
- Data Reporting Tools - Where are we at? - 9:30 - 10:00
- Review & Analysis of Longitudinal Data, 2006 - 2009 - 10:00 - 10:45
- Introduction to DataWise - 10:45 - 12:00
- Lunch - 12:00 - 12:30
- Continue DataWise/Data Mining - 12:30 - 3:00

Review & Analysis of Longitudinal Data

- Obtain data for your school, district, and state
- Identify trends:
 - by subject
 - by district (comparison of schools)
- Think about contributing factors
- Identify successes and failures
- Debrief - share what you have learned

Short video on Teamwork...



Creating Effective Data Teams

Data Wise



ORGANIZE FOR COLLABORATIVE WORK

- Creating a Data Team
- Guiding a Data Team
 - Create a Data Inventory
 - Develop An Inventory of Instructional Initiatives
- Enabling Collaborative Work
 - Building a Strong System of Teams
 - Create a Schedule That Allows For Regular Collaborative Work
- Planning Productive Meetings
- Establishing Group Norms

Organize For Collaborative Work

Creating a Data Team:

The **data team** can help address what schools repeatedly tell us is the biggest barrier to using data -- **time**.

Having a few people *responsible for organizing and preparing the data* means that you can **dedicate the full faculty's time** to discussing the data.

ORGANIZE FOR COLLABORATIVE WORK

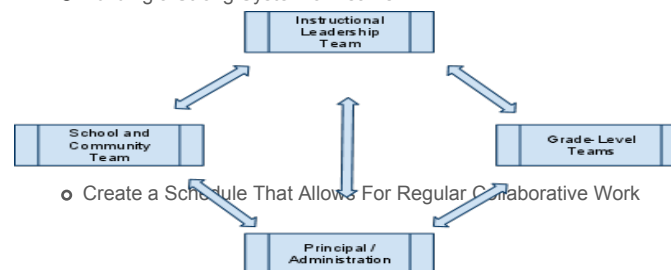
Guiding a Data Team

- Create a Data Inventory - *start by gathering the data/scores that you will need to to guide your student analysis*
- Take Stock of Data Organization - *Be sure to organize your data so that it is easy to access and review as needed throughout the school year*
- Develop An Inventory of Instructional Initiatives - *these are programs that have been implemented by the teachers to meet the instructional needs of the students*

ORGANIZE FOR COLLABORATIVE WORK

Enabling Collaborative Work

- Building a Strong System of Teams



- Create a Schedule That Allows For Regular Collaborative Work

ORGANIZE FOR COLLABORATIVE WORK

Planning Productive Meetings

1. Establishing Group Norms
2. Use Protocols to structure conversations
3. adopt an improvement process
4. lesson plans for meetings

BUILDING ASSESSMENT LITERACY

- Principles for Interpreting Assessment Results
- Different Ways of Reporting Performance
- Trading Off Detail For Reliability
- How Do You Measure Improvement
- Strategies for Interpreting Data



BUILDING ASSESSMENT LITERACY

- First, an example...
- If a student performs well on a test, does that mean that they know all of what was taught during instruction?
- How does the design of the test play into this?

A
siliculose
vilipend
epimysium

B
bath
travel
carpet

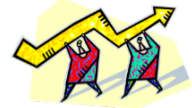
C
feckless
disparage
miniscule



BUILDING ASSESSMENT LITERACY

Principles for Interpreting Assessment Results

- Sampling Principle of Testing
 - Can you fully assess a 10,000 word vocabulary?
- Discrimination
 - It's a GOOD thing!
- Measurement Error
 - What if I know 'feckless' but not 'parsimonious'?



BUILDING ASSESSMENT LITERACY

Principles for Interpreting Assessment Results

- Reliability
 - How much do you weigh with a cheap bathroom scale vs. a doctors scale?
- Score Inflation
 - Teaching, or teach to the test?



BUILDING ASSESSMENT LITERACY

A Few Key Assessment Issues

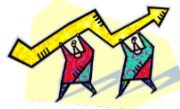
- Accounting for Measurement Error and Sampling Error
 - Measurement Errors
 - No test is perfect
 - Would anyone perform exactly the same way on every measurement?
 - Keep it in range!
 - Sample Errors
 - Dan Jones Polls: +/- 4%
 - Comes when assessing a sample group



BUILDING ASSESSMENT LITERACY

Keep the scores in perspective...

- All of these assessments can be valuable, but...
 - can they show how well students solve long, complex problems?
 - can they show us that a student can apply a given principal in math outside of the class?
 - can it show how well students can write and revise a paper on a complex issue?
- These scores must be viewed as a compliment to the overall assessment of student success.
- Significant decisions about a student can not be based on a single score.



BUILDING ASSESSMENT LITERACY

Interpreting Recent Test Scores - Three Strategies

1. Look beyond a single assessment by comparing the scores of
 1. the cohort over the past few years or
 2. how the scores in a single grade/subject has performed over time
2. Compare your students' results with those of relevant students in the district or state
3. Compare your students results on the most recent assessment with their performance on other assessments - look at the entire picture of the data inventory



Test Type Comparison

Type of Test	Definition	Examples
Norm-Referenced Test (NRT)	A test designed to measure a student's level of performance on predetermined content standards	ITBS, Stanford 9, Terra Nova
Criterion-Referenced Test (CRT)	A test that describes performance of one unit (student, school, etc.) in terms of its relationship to a representative distribution of performance	Minimum competency tests
Standards-Referenced or Standards Based Test (SRT)	A test that is designed to determine if a student has mastered a defined set of skills/knowledge	Most current state-mandated testing programs

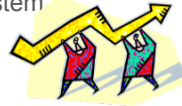
Score Type Comparison

Type of Test	Definition	Examples
Raw Score	The score needed to reach a predetermined passing level	Classroom tests scored as % correct
Percentile Rank	A simple count or percentage of the credits achieved on the test	SAT mathematics - a score of 700 = 95 th PR
Cut Score	Developmental scores that report the performance of students in different grades on a single numerical scale	Raw score required to pass a minimum-competency test
Performance Levels	The percentage of students a given student outscores.	MCAS - Warning or Failing, Needs Improvement, Proficient, Advanced
Grade Equivalents	Developmental scores that report the performance of a student by comparing the student to the median at a specific age	ITBS - a GE of 3.7 represents the median performance of a student in the seventh month of third grade
Developmental Scale Score	A number of levels that demonstrate a range of performance	ITBS Form K - 176 is the developmental scale score corresponding to a GE of 3.2 in reading

BUILDING ASSESSMENT LITERACY

Are improved test scores always meaningful?

- Small changes in performance on test scores are not always a sign of success or failure
 - Sampling error can be the cause
 - Measurement error could be to blame - are the different items used on the exam truly equivalent?
 - Different tests generally provide a somewhat different view of performance
 - There is always the possibility of 'gaming the system'
- The bottom line? Work for teaching that is focused on increasing mastery, and not on changing scores



DIGGING INTO DATA

- Look Carefully At A Single Source
- Dig Into Other Data Sources



Data Mining - Let's Dig Deeper

- Data Display Tool
- <https://cognos.schools.utah.gov/cognos8/>
- Username: usoedd
- Password: cognos
- How do I navigate these reports?
- Investigate the red flags:
 - Is there a difference between genders?
 - Economic status?
 - ELL?

Your task for this evening...

- Please explore Chapter 1 of the (blue) Data Wise book.
- Develop an action plan:
 - What data/assessments are available to examine with your staff (data inventory)?
 - How will you structure your data teams?
 - Will you require multiple teams?
 - What group norms will you require?