Using Data for Continuous School Improvement

Facilitated by Victoria L. Bernhardt, Ph.D.

Learning Forward Annual Conference • Session PC212

December 7, 2014

9:00 AM – 4:00 PM

Outcomes

Participants will:

- See how to engage staff in the hard work of comprehensive data analysis for student learning increases.
- Look at multiple measures of data and how they fit into an overall data analysis framework.
- Understand the kind of data that must be used to answer essential questions.
- Learn how to solve a problem with data, and how to create and lead a plan that will positively transform leading, teaching, and learning schoolwide or districtwide.

Welcome / Introductions / Agenda / Logistics / Expected Outcomes

Overview of Continuous School Improvement

Overview of Comprehensive Data Analysis

Where Are We Now?

- Demographics
- Perceptions
- School Processes
- Student Learning

Looking Across the Four Types of Data

How Did We Get To Where We Are?

- Solving a “Problem” Using Data
- Measuring School Processes

Where Do We Want to Be?

- How to Create/Revisit Your School Vision

How Are We Going to Get to Where We Want to Be?

- Implementation of the Vision: Professional Learning, Partnerships, Leadership, Collaboration

Is What We Are Doing Making a Difference?

Closing
WELCOME!

USING DATA FOR CONTINUOUS SCHOOL IMPROVEMENT
SESSION PC212

Learning Forward Annual Conference
Nashville, TN. December 7, 2014

Victoria L. Bernhardt  Bradley J. Geise
vbernhardt@csuchico.edu  bgeise@csuchico.edu
http://eff.csuchico.edu

SESSION DESCRIPTION
Schools can become much more efficient and innovative learning organizations when they use data effectively. Be able to address the questions that lead to aligning instruction and practices to the needs of the learner. See how student learning can increase in every grade level, subject area, and within every student group. Gain an overview of the continuous school improvement cycle and explore the actions of schools committed to using data for continuous improvement.

WHAT IS THE HARDEST PART FROM YOUR PERSPECTIVE?
• Beliefs that all children can learn.
• Schools honestly reviewing their data.
• One vision.
• One plan to implement the vision.
• Curriculum, instructional strategies, and assessments clear and aligned to standards.
• Staff collaboration and use of data related to standards implementation.
• Staff professional development to work differently.
• Rethinking current structures to avoid add-ons.
THINGS WE KNOW ABOUT IMPROVING STUDENT LEARNING

- Quality of classroom instruction is the single greatest predictor of student learning and achievement.
- Principal leadership is second...

Robert J. Marzano

THINGS WE KNOW ABOUT DATA USE

For data to be used to impact classroom instruction, there must be structures in place, to—
- Implement a shared schoolwide vision.
- Help staffs review data and discuss improving processes.
- Have regular, honest collaborations that cause learning.

LEARNING DEFINITION

Learning is the process through which experience causes permanent change in knowledge or behavior.

Cognitive Psychology
CONTINUOUS SCHOOL IMPROVEMENT FRAMEWORK

Where are we now?

Demographics
- District
- Schools
- Students
- Staffs
- Community
Perceptions
- Culture
- Climate
- Values
and Beliefs
Student Learning
- Summative
- Formative
- Diagnostic
School Processes
- Programs
- Instructional
- Organizational
- Administrative
- Continuous School Improvement

Who are we?

How do we do business?

How are our students doing?

What are our processes?

What is working/not working?

Contributing Causes
Predictive Analytics

How did we get to where we are?

Continuous Improvement Plan
- Objectives
- Strategies
- Activities
- Budget
Implementation Strategies
- Leadership Structures
- Collaborative Strategies
- Professional Learning
- Partnerships

Where do we want to be?

Purpose
Mission
Vision
Goals
Student Learning Standards

Why do we exist?

Where do we want to go?

How can we get to where we want to be?

How will we implement?

How are we going to get to where we want to be?

Is what we are doing making a difference?

Formative and Summative Evaluation

How will we evaluate our efforts?

THREE POWERFUL INSIGHTS ABOUT HOW PEOPLE LEARN

To develop competence (i.e., properly learn) in an area of inquiry, people must:

1. Learn new things (facts, ideas, etc.).
2. Understand those things in the context of a conceptual framework.
3. Organize their knowledge in ways that facilitate retrieval and application.

COMPLIANCE VERSUS COMMITMENT


DATA-INFORMED DECISION MAKING

Reasons to Collect and Use Data—
- Find out where you are
- To understand how you got there
- Plan
- Evaluate
- Predict
- Clean up your system
Multiple Measures of Data

allows the prediction of actions/processes/programs that best meet the learning needs of all students.

Tells us: Student participation in different programs and processes.

Over time, school processes show how classrooms change.

Tells us: What processes/programs work best for different groups of students with respect to student learning.

Tells us: If a program is making a difference in student learning results.

Over time, standardized tests give information about student performance on different measures.

Tells us: The impact of the program on student learning based upon perceptions of the program and on the processes used.

DEMOGRAPHICS

Enrollment, Attendance, Drop-Out Rate, Ethnicity, Gender, Grade Level

Tells us: If groups of students are "experiencing school" differently.

The impact of demographic factors and attitudes about the learning environment on student learning.

SCHOOL PROCESSES

Description of School Programs and Processes

Tells us: What processes/programs indicate changes in the context of the school.

Over time, demographic data indicate changes in the context of the school.

PERCEPTIONS

Values and Beliefs

Tells us: The impact of student perceptions of the learning environment on student learning.

Attitudes

Over time, perceptions can tell us about environmental improvements.

STUDENT LEARNING

Formative Assessments

Tells us: What processes/programs different groups of students like best.

Over time, student learning data give information about student performance on different measures.

DEMOGRAPHICS ARE IMPORTANT DATA

- Describe the context of the school and school district.
- Help us understand all other numbers.
- Are used for disaggregating other types of data.
- Describe our system and leadership.

STAFF DEMOGRAPHICS

- School and Teaching Assignment
- Qualifications
- Years of Teaching/At this school
- Gender, ethnicity
- Additional Professional Development

WHAT STUDENT DEMOGRAPHIC DATA ELEMENTS CHANGE WHEN LEADERSHIP CHANGES?

- Enrollment
- Gender
- Ethnicity/Race
- Attendance (Absences)
- Expulsions
- Suspensions
- Language Proficiency
- Indicators of Poverty
- Special Needs/Exceptionality
- IEP (Yes/No)
- Drop-Out / Graduation Rates
- Program Enrollment
### DEFINITIONS

- **STRENGTHS**: Something positive that can be seen in the data. Often leverage for improving a challenge.

- **CHALLENGES**: Data that imply something might need attention, a potential undesirable result, or something out of a school’s control.

### DEFINITIONS

- **IMPLICATIONS FOR THE SCHOOL IMPROVEMENT PLAN** are placeholders until all the data are analyzed. Implications are thoughts to not forget to address in the school improvement plan. Implications most often result from **CHALLENGES**.

### OTHER DEMOGRAPHICS

- Please list other demographic data you would like to have in your data profile.

- Make sure your data profile describes your uniqueness and provides the information you need to monitor your system.
LOOKING AT THE DATA

- Analyze the data.
- Consider how to engage all staff in analyzing the data.
- Inventory what you have and need.
- Clean up your data.

PERCEPTIONS ARE IMPORTANT DATA

- Help us understand what students, staff, and parents are perceiving about the learning environment.
- We cannot act different from what we value, believe, perceive.
PERCEPTIONS INCLUDE

- Student, Staff, Parent, Alumni Questionnaires
- Observations
- Focus Groups

STUDENT LEARNING ARE IMPORTANT DATA

- Know what students are learning.
- Understand what we are teaching.
- Determine which students need extra help.

STUDENT LEARNING DATA INCLUDE

- Diagnostic Assessments (Universal Screeners)
- Classroom Assessments
- Formative Assessments (Progress Monitoring)
- Summative Assessments (High Stakes Tests, End of Course)

## Data-Driven Decision Making Model

### Processes Used

<table>
<thead>
<tr>
<th>Pre-Assessment</th>
<th>Formative Assessment</th>
<th>Formative Assessment</th>
<th>Formative Assessment</th>
<th>Post-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students on target to goal</td>
<td>Who are they?</td>
<td>Who are they?</td>
<td>Who are they?</td>
<td>Who are they?</td>
</tr>
<tr>
<td>Students needing additional support</td>
<td>What do the students know?</td>
<td>What concepts do they not understand?</td>
<td>What skills do students need?</td>
<td>Professional learning required?</td>
</tr>
<tr>
<td>Processes altered</td>
<td>Processes altered</td>
<td>Processes altered</td>
<td>Processes altered</td>
<td>Processes altered</td>
</tr>
</tbody>
</table>

### GOAL:
What we expect students to know and be able to do.
Schools are perfectly designed to get the results they are getting now. If schools want different results, they must measure and then change their processes to create the results they really want.

SCHOOL PROCESSES ARE IMPORTANT DATA

- Tell us about the way we work.
- Tell us how we get the results we are getting.
- Help us know if we have instructional coherence.
<table>
<thead>
<tr>
<th><strong>SCHOOL PROCESSES EXAMPLES</strong></th>
<th><strong>Programs</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous School Improvement Processes</td>
<td>9th Grade Academy</td>
</tr>
<tr>
<td>Educational planning</td>
<td>A+</td>
</tr>
<tr>
<td>Reading</td>
<td>Accelerated Reader/Math</td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>After School</td>
</tr>
<tr>
<td>AVID</td>
<td>At-Risk</td>
</tr>
<tr>
<td>Bilingual</td>
<td>Counseling</td>
</tr>
<tr>
<td>Dropout Prevention as a Second Language</td>
<td>Gifted and Talented</td>
</tr>
<tr>
<td>International Baccalaureate</td>
<td>PBIS</td>
</tr>
<tr>
<td>Service Learning</td>
<td>Special Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Administrative Processes</strong></th>
<th><strong>Examples</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>Program use</td>
</tr>
<tr>
<td>Data collection</td>
<td>Dropout prevention</td>
</tr>
<tr>
<td>Discipline strategies</td>
<td>Effective communication</td>
</tr>
<tr>
<td>Enrollment</td>
<td>Graduation strategies</td>
</tr>
<tr>
<td>Mission</td>
<td>Leadership turnover</td>
</tr>
<tr>
<td>Vision</td>
<td>Number and use of support personnel</td>
</tr>
<tr>
<td>Self-assessment</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Organizational Processes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Teams</td>
</tr>
<tr>
<td>Data use</td>
</tr>
<tr>
<td>Instructional coaching</td>
</tr>
<tr>
<td>Instructional structure (teacher teams)</td>
</tr>
<tr>
<td>Mentoring</td>
</tr>
<tr>
<td>Parent involvement</td>
</tr>
<tr>
<td>Policies and procedures</td>
</tr>
<tr>
<td>Professional Learning Communities</td>
</tr>
<tr>
<td>Professional reflection</td>
</tr>
<tr>
<td>Referral Process</td>
</tr>
<tr>
<td>Response to Intervention (RtI)</td>
</tr>
<tr>
<td>Scheduling of classes</td>
</tr>
<tr>
<td>Scheduling of groups</td>
</tr>
<tr>
<td>Teacher assignments</td>
</tr>
<tr>
<td>Teacher certification</td>
</tr>
<tr>
<td>Teacher hiring</td>
</tr>
<tr>
<td>Teacher turnover rates</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Instructional Processes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic conversations</td>
</tr>
<tr>
<td>Classroom assignments (types of tasks, choice, projects, collaboration)</td>
</tr>
<tr>
<td>Classroom discussions (teacher talk, student-to-student talk)</td>
</tr>
<tr>
<td>Differentiated instruction</td>
</tr>
<tr>
<td>Direct instruction</td>
</tr>
<tr>
<td>Grading</td>
</tr>
<tr>
<td>Homework</td>
</tr>
<tr>
<td>Inclusion</td>
</tr>
<tr>
<td>Inquiry process</td>
</tr>
<tr>
<td>Standards implementation</td>
</tr>
<tr>
<td>Student reflection and self-assessment</td>
</tr>
<tr>
<td>Technology integration</td>
</tr>
<tr>
<td>Tutoring</td>
</tr>
</tbody>
</table>

*Education for the Future, Chico, CA (http://eft.csuchico.edu)*
SCHOOL PROCESSES DEFINITIONS

- INSTRUCTIONAL: The techniques and strategies that teachers use in the learning environment.

- ORGANIZATIONAL: Those structures the school puts in place to implement the vision.

- ADMINISTRATIVE: Elements about schooling that we count, such as class sizes.

- CONTINUOUS SCHOOL IMPROVEMENT: The structures and elements that help schools continuously improve their systems.

- PROGRAMS: Programs are planned series of activities and processes, with specific goals.

“Life can only be understood backwards; but it must be lived forwards.”

- Søren Kierkegaard
We cannot solve our problems with the same thinking we used when we created them.

Albert Einstein
People come to learning with preconceptions based on existing understanding and practices. If these initial understandings are not explicitly engaged, the result will be outright resistance or superficial compliance (at best) and a perpetuation of the status quo. Therefore, existing understandings and practices have to get on the table!

*Steven Katz*

---

**MONITORING SCHOOL PROGRAMS AND PROCESSES**

If you are not monitoring and measuring program implementation, the program probably does not exist.

---

**EVALUATING SCHOOL PROGRAMS AND PROCESSES**

You cannot evaluate a program that you cannot describe.
MONITORING AND EVALUATING PROGRAM IMPLEMENTATION

If you can describe what a program will look like when implemented, you can monitor its implementation, and evaluate its impact.

Everything we do is a PROCESS.

FLOWCHARTING SCHOOL PROCESSES

- Assess what is really being implemented.
- Understand how we get our results.
- Determine the cause of a problem or challenge.

FLOWCHARTING SCHOOL PROCESSES

- Build common understandings of a whole process.
- Communicate process related information visually.
- Provide a way to monitor and update processes.
PROCESS FLOWCHARTS

Process maps or flow charts are composed of a relatively standardized set of symbols.

FLOWCHART EXAMPLES

- Prevention System – Pages 88-89
- Common Core State Standards – Page 90
- Shared Vision – Page 260
- High School Process – Page 261
- Process of Using Data in PLCs – Page 262

HOW TO ANALYZE SCHOOL PROCESSES DATA

1. List the programs and processes being used in your school.
2. Analyze the lists of programs and processes.
3. Analyze the programs and processes using the Measuring Programs and Processes Table.
4. Use flowcharts to describe and visualize how a program or process is to be implemented.
“Shared visions emerge from personal visions. This is how they derive their energy and how they foster commitment... If people don't have their own vision, all they can do is 'sign up' for someone else's. The result is compliance, never commitment.”

Peter Senge, *The Fifth Discipline*

---

**MISSION**

*An effective mission statement—*

- Is a brief, clear, and compelling goal that serves to unify an organization’s efforts.
- Must stretch and challenge the organization, yet be achievable.
- Is tangible, value-driven, energizing, highly focused and moves the organization forward.
- Has a finish line for its achievement and is proactive.
MISSION

Mission statements have three parts:

- Who we are.
- What we do.
- What results we want to achieve.

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

MISSION

VISION

- Specific description of what it will be like when the mission is achieved.
- Transforms the mission from words into pictures.
- Needs to be more than a statement . . .
- Brings the mission to life.

VISION

VISION

VISION

VISION

VISION

VISION

VISION

VISION

VISION

VISION

VISION

VISION

— Curriculum— What we teach.
— Instruction— How we teach the curriculum.
— Assessment— How we assess learning.
— Environment— How each person treats every other person.
MARYLIN AVENUE’S SHARED VISION FLOWCHART


LEADERSHIP

- Assists everyone in the organization in implementing the vision.
- Structures in alignment with the vision.
- Roles and responsibilities.
- Effective meetings.

**ELEMENTS OF EFFECTIVE LEADERSHIP STRUCTURES**

Important elements of effective leadership structures include:

- Partitioning of all school staff in a manner that makes sense for supporting the implementation of the vision.
- Clarifying purposes and roles and responsibilities of all teams.
- Identifying times to meet and keeping them sacred.

**STRUCTURES FOR COLLABORATION**

“Collaboration is vital to sustain what we call profound or really deep change, because without it, organizations are just overwhelmed by the forces of the status quo.”

Peter Senge

**STRATEGIES FOR TEACHERS**

- Using data to improve teaching and learning will not happen on its own.
- We must build the collaborative structures, inspire the vision of effective teaching and data use, and encourage strategies to make it all happen.
STRATEGIES THAT LEAD TO EFFECTIVE DATA USE

Five preconditions for effective use of student learning data:
1. The use of appropriate data;
2. A shared vision;
3. Leadership encouragement and support;
4. Structures for collaboration; and
5. Strategies to support each other in the attainment of new teaching skills.

STRUCTURES FOR COLLABORATION

What we want teachers to do in collaborative communities, include—
• Agree and commit to working with each other to help all students learn.
• Agree on what they want students to know and be able to do, and how they will know that each student has learned it.
• Agree on how and when they will assess student knowledge.

STRUCTURES FOR COLLABORATION

What we want teachers to do in collaborative communities, include (continued)—
• Establish a plan/flowchart for what teachers will do when students do not know the concepts and do not have the skills.
• Review data, discuss results, and support each other in trying new strategies to ensure students are learning.
What we want teachers to do in collaborative communities, include (continued)—

- Share professional knowledge, understanding, experience, vision, and goals.
- Support each other in the challenges of practice.
- Hold themselves and the collaborative teams accountable for results.
- Improve teaching and learning.

Many strategies exist for encouraging collaboration among team members so they can help each other improve their teaching and their students’ learning. Three favorites are—

1. The communication protocol.
2. Examining students’ work for instructional coherence.
3. Ability to achievement.

Describe the activity.

How would you use it?

When would you use it?
“However beautiful the strategy, you should occasionally look at the results.”

Winston Churchill
Former British Prime Minister
As quoted at INSEAD Knowledge

THANK YOU!

Victoria L. Bernhardt  Bradley J. Geise
vbernhardt@csuchico.edu  bgeise@csuchico.edu
http://eff.csuchico.edu
INPUT/GIVENS  PROCESS/SYSTEM  OUTCOME/RESULTS

Student Background
Staff Background and Qualifications
Parent-Community Characteristics
Perceptions: Preconceived Notions, Expectations
Learning Styles Preferences
Teaching Styles Preferences
Core Values and Beliefs
Student Learning Standards
Purpose, Mission, and Vision
Leadership/ Policies
Curriculum
Program Offerings and Access
Staffing Assignments
Instructional Strategies and Materials
Assessment Strategies and Materials
Professional Learning, Planning, and Collaboration
Parent-Community Relationships
Physical Environment
Financial Allocations
Student Achievement Results
Student and Teacher Attendance
Student Behaviors
Student Attitudes
Teacher Attitudes
Graduation Rates Dropout Rates
Student Careers
Student Success in College
Parent-Community Attitudes
District / School Climate

© Education for the Future, Chico, CA (http://eff.csuchico.edu)