Using Data to Inform
A School-wide Literacy Reform Initiative

Leslie Novosel & Jake Cornett

International SIM Conference (2010)

Sound familiar? Are you inundated with data? Well, it should help you to know that you aren't the only one…(play video)

http://www.youtube.com/watch?v=4DdiJAPA7ag&feature=related

Guiding Principles

Systems

Processes

We will discuss guiding principles, systems, and processes for successful implementation of school-wide data use.

Casualties

For every 1,000 soldiers wounded

104 casualties

"If you count something you find interesting, you will learn something."

From the book: "Best" by, Gwande (2007)

"Count Something! It doesn't matter what you count, you don't need a research grant. If you count something you find interesting, you will learn something." (Gwande, 2007) In the Iraqi War of 2004: Fallujah - 1,000 soldiers wounded, 104 casualties. Surgeons knew these statistics because 3 senior physicians collected 75 pieces of data on *every* casualty so they could later analyze the patterns on what happened to the soldiers and how effective the treatments had been. Few Doctors, 2 computers, stayed up all morning and night entering in data. Knowing their results was so important they skipped sleep to enter data.

Through diligence over details of their own performance. Blinding injuries were significantly decreased by updating eye protective wear. First aid kits were updated to include tourniquets the soldiers could apply themselves when injured. These doctors understood the importance of being vigilant in reference to the details of their performance - the same kind practice eradicated polio

Casualties

1.2 million students drop out each year

7,000 every school day

One every 26 seconds

2.11 million arrested each year

Count something...

Establish need for urgency!

Resources:

http://www.americaspromise.org/About-the-Alliance/Press-Room/Press-Releases/2009/2009-April-22-High-School-Graduation-Rates-Rise

http://ojjdp.ncjrs.gov/ojstatbb/default.asp

What We Know

Focus on continuous improvement

Challenge educators' perceptions about students' abilities

Although accountability trends explain why more data are available in schools, the question of what to do with the data remains to be seen Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making*. IES Practice Guide.

Effective use of data to make decisions improves the capacity of schools to transform into learning organizations that focus on continuous improvement efforts (Cromey, 2000; Datnow, Park, & Wohlstetter, 2007; Johnson, 2000; Lafee, 2002; Petrides & Nodine, 2005)

Talk about "period of remorse" educators experience when first confronted with data.

Blaming the victim...when educators are confronted with evidence that challenges their views about students' abilities, data can act as a possible impetus for changing perceptions (Skrla & Scheurich, 2002).

What We Know

"Misdiagnosing problems is one of the most common mistakes made by [educators]." (Heifitz, 2006, p. 12)

AYP deadlines, political pressures, and a sense of urgency, resulted in educators' making assumptions without thoroughly examining the data (Shirley and Hargreaves, 2006).

Cognitive scientists agree that in the absence of data and effective problem solving skills, individuals have the proclivity to make decisions based on anecdotal evidence and instinct alone (Reys, Lindquist, Lambidn, Simt & Suydam, 2003).

We cannot expect educators to make informed decisions without technical training on analyzing data. *Cite example from Barnhardt here!*

Cycle of Inquiry (1939-2010)

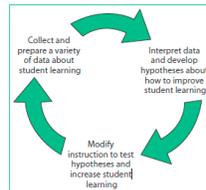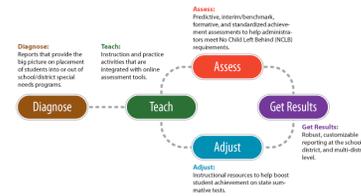
FIGURE 8-4
SHEWHART-DEMING CONTINUOUS IMPROVEMENT CYCLE

Exhibit 1-1. Conceptual Framework for Data-driven Decision Making

Figure 1. Data use cycle

You do not need to read the details on this slide.

The cycle of inquiry is a process in which educators analyze data—such as demographic, perceptual, school process, and student achievement data—in order to understand how these elements are interrelated and what they suggest about students' learning needs.

A multistep process, the cycle of inquiry often involves analyzing data to better understand student needs, developing hypotheses about instructional practice, formulating and implementing action plans to improve student learning and achievement, and then once again analyzing data to evaluate student progress and inform next steps. 70 years - No experimental data to support theory that using a cycle of inquiry will increase student achievement. Every leading school reform expert talks about the use of data in their school reform model. Qualitative research that assesses the impact of an inquiry cycle: on student achievement; steps within that cycle; as a framework for analysis. Yet, they are consistently found in high performing schools.

Resources:
1. Shewhart (1939). Foundation for corporate work management work by Deming (see Rinehart, G. (1993). Quality education: Applying the philosophy of Dr. W. Edwards Deming to transform the educational system. Milwaukee, WI: ASQC Quality Press.
2. Use of Education Data at the Local Level From Accountability to Instructional Improvement. (2010). Washington, D.C.: U.S. Department of Education, Office of Planning, Evaluation, and Policy Development
3. Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). Using student achievement data to support instructional decision making.
4. McGraw Hill

Systems

Strongest Levers:

Leadership

Connection to Practice

Learning Communities

Timeliness

Leadership: logistical details (i.e., schedule meetings, ensure time for reflection, budget for data coaches). Principals encourage data use by designating all or part of teacher planning or professional development time as occasions for examining and reflecting on data, and communicating expectations around data use

Connected: Common assessments so all can teach the same content gives to their students at the same time encourages teachers to sit down and share both their data and their teaching strategies

These factors were found to have the strongest leverage in achieving and sustaining data based decision making.

Learning Groups: Ongoing support from colleagues and instructional or data coaches who help teachers examine data and develop instructional plans to meet students needs IS more effective than formal PD; Horizontal team meetings to analyze, reflect, target instruction?

Instructional/Data Coach or Site Coordinator: determines PD, schedules and leads data meetings, models how to connect data to instructional practice (Greatest perceived area of need among districts is for models of how to connect student data to instructional practice.)

Timeliness: Designate administrative assistant or testing coordinator to collect, score, input results, and ensure all data gets to teachers in a timely manner

Teacher criticisms: delay issues, lack of alignment with standards, lack of alignment with the school's instructional approach, received only cross-sectional data rather than longitudinal data for the same set of students over time.

Reference: Use of Education Data at the Local Level From Accountability to Instructional Improvement. (2010). Washington, D.C.: U.S. Department of Education, Office of Planning, Evaluation, and Policy Development

Example of an elementary school that has created a data rich culture of inquiry (student names were displayed in the teacher workroom, not in public areas). If you have questions about how to build a culture of inquiry, hang on. We will get to that issue shortly.

Student, classroom, and school-wide data was visible throughout teacher work rooms, offices, hallways, classrooms, and entrance to school. Every student had a copy of their goals and record of their progress, which was updated daily. The entire school community had a transparent picture of where they were (academically, behaviorally) and where they needed to be.

What do data walls look like in secondary schools?

Authentic pictures (Leslie captured this picture while on a school visit in Feb.)

Systems

Build capacity

Data literacy

Collaborative cultures of inquiry

Educators will interpret data using their beliefs, values, assumptions, and practices- constantly being constructed through interactions with others and our reflections on life and our world

Data Literacy: Not just being able to read a chart or graph. Informing decisions through collective cultures of inquiry (not just using data to DRIVE decisions) and engaging in the iterative process of creating solutions to a problem. Data leaders build systemic processes that support collaborative communities that use data to think about a problem.

Culture of Inquiry:
•Fostering a spirit of inquiry (think, reflect, respectfully disagree) where educators routinely use data to think about the future
•When groups of people in a system have intimate knowledge of the data and have argued about its meaning and applicability, they have a possibility of developing a shared purpose and working together to reach their goals
•Data become the vehicle for identifying "what next" and instilling "urgency" as a way or creating energy associated with a course of action that makes sense in fulfilling the purpose of schooling
•Making sense of data and using it to derive collective meanings and commitments is not an overnight process
•Facilitate reflection on issues that arise, explain complex data in accessible ways, ask questions, probe for justification and evidence to support perceptions, help reformulate interpretations, and point out what has already been accomplished

Capacity - some will have more knowledge than other. Identify experts and novices and build capacities of less experienced staff.

Process

Two types:

Interacting Groups

Nominal Group Technique (NGT)

Introduce 2 processes/frameworks for decision making:

Interacting (Discussion groups) – statement made by group leader, unstructured group discussion, consensus

NGT – structured format group process

Research: Nominal Group Technique significantly more effective than typical Discussion Groups (VandeVen & Delbecq (1974)

Problem:

Given end of first semester data collected on Fusion implementation *(observations, student progress, teacher discussion),* you discover that the teacher is not maintaining appropriate pacing. As a result, the probability that students will be adequately prepared for Fusion II is not likely.

Next, turn the problem into a question.

Question:

What action steps do we need to take that will support the Fusion teacher and allow for adequate pacing so students will complete the program by the end of the school year?

Is this question Observable? Measurable? Strategic?

Nominal Group Technique (NGT) Steps

1. Generate

2. Present

3. Summarize

4. Discuss

5. Vote

6. Assign rank

7. Discuss

8. Vote again

NGT is an evidence-based decision making process that can be used to address big questions as it is a timely process and requires 1-1.5 hours of work.

NGT is a group meeting in which a structured format is utilized for decision-making among individuals seated around a table. This structured format proceeds as follows:

1. Generate ideas by writing about a problem or task (silently, individually): provides focus, time for creativity without interruptions, avoids conformity, competition, & status problems (5 mins too long)

2. Present ideas to the group without discussion (one at a time, no cross-talk): forces equal sharing and participation, encourages more ideas through "hitch-hiking", depersonalizes ideas & tolerates conflicting ideas

3. Summarize idea in a simple phrase and record on chart paper or white board: clarifies each idea before jumping to conclusions, each idea is as important as another before vote

4. Discuss recorded ideas for the purpose of clarification and evaluation: promotes attacking ideas on wall (not people), provides preparation for decision

5. Vote by ranking or rating ideas (silently, individually)

6. Assign rank number to ideas

7. Discuss preliminary vote: encourages minority opinions & clarifies misunderstandings, promotes attacking ideas (not people), provides preparation for decision

8. Vote again to reach consensus

Thoughts, Questions, Concerns?

lnovosel@ku.edu

cornetj@ku.edu