



MODULE

2

Mining Data

Academy 1 v.1: Mining Meaningful Data Facilitator Manual



Great Urban Schools: Learning Together Builds Strong Communities



www.urbanschools.org



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National Institute for Urban School Improvement

The National Institute for Urban School Improvement (NIUSI) is funded by the Office of Special Education Programs at the U.S. Department of Education. The mission of NIUSI is to support the building of capacity in urban schools and school districts so that students with disabilities are engaged in high quality curriculum and learning experiences that improve their ability to succeed in school and in post-school opportunities. NIUSI works to develop powerful networks of urban local education agencies and schools that embrace and implement a data-based, continuous improvement approach for inclusive practices. Embedded within this approach is a commitment to evidence based practice in early intervention, universal design, literacy and positive behavior supports.

Part of NIUSI's work is to link existing general education reform networks with special education networks and we also synthesize existing research into products that are made accessible in both print and electronic versions. These offerings support the efforts of professionals, families, researchers, advocacy organizations and others involved in the work to create culturally responsive, inclusive school communities.

NIUSI Goals

One of the main goals of The National Institute for Urban School Improvement is to work collaboratively with educators in its partner districts in the area of professional development. This work is grounded in the beliefs that professional development must:

- Address specific needs of states, districts, schools and communities with a focus on helping students achieve learning and performance goals.
- Be a collaborative endeavor with teachers, administrators, families and students involved in the design, planning and or implementations.
- Rely upon content and processes that are research-based and proven in practice.
- Be school-based, job-embedded, and continuously evaluated and adjusted to ensure effectiveness in meeting school and student learning goals.

Leadership Academy Model

A strategy through which NIUSI helps educators develop leadership skills for school change is through the Leadership Academy model of professional development. In collaboration with schools and local universities, NIUSI creates these Leadership Academies for preservice and in-service activities. The approach includes careful consideration of the content for professional development, adult learning principles, and selection of teams from schools and districts that can support their team members' learning and practice. In this way, professional development can build on converged needs, create a sense of common purpose and extend the creativity and skill of practitioners. Specifically, NIUSI works with urban school districts to build information systems that assist leadership teams to focus on goals for instructional, curricular, and cultural improvement and for empowering action research agendas among school professionals.

All academies are based on the National Institute's assumptions that great schools:

- Use the valuable knowledge and experience that children and their families bring to school learning.
- Expand students' life opportunities, available choices and community contributions.
- Construct education for social justice, access and equity.
- Build on the extraordinary resources that urban communities provide for life-long learning.
- Need individuals, family organizations and communities to work together to create future generations of possibility.
- Practice scholarship by creating partnerships for action-based research and inquiry.
- Shape their practice based on evidence of what results in successful learning of each student.
- Foster relationships based on care, respect and responsibility.
- Produce high achieving students.
- Understand that people learn in different ways throughout their lives; great schools respond with learning opportunities that work.

Professional Development Modules

Systemic school change is a complex and difficult task. The challenge is great, but educators throughout our nation and other nations are actively engaging the opportunity to transform education and how we go about the work of teaching and learning in our schools. This module is

one of ten developed by NIUSI to assess networks of schools engaging their faculty, staff, families, students, and community members in ongoing renewal and systemic change.

Every module is designed with three academies that build knowledge, skills, and practices clustered around particular aspects of school wide improvement. The intent is simple: Build a common vision, vocabulary, and skill set around essential elements of school improvement. The best way to implement this module is to bring together building leadership teams from a cluster of schools so that teams can learn from one another, and create a practice community that can support innovation. The academies should be offered in sequence from academies 1 – 3. Space the academies about four weeks apart, so that some application can occur between sessions. Make sure that there is a plan for coaching on site between modules.

Why Data Mining?

Notice the number of times that data and evidence appear in NIUSI's principles. Saying that teachers, families and administrators need data to make decisions is one thing, understanding and using data well is another. In fact, few teachers and administrators have been educated in programs that have focused on making meaning from data and then using those analyses to guide school improvement and classroom instruction. This module is designed to help building leadership teams learn the skills required to mine data and use it to make decisions. As principals and teacher leaders become confident in their ability to query their data, they will become strong role models and coaches for the entire faculty.

In this module we take a serious look at understanding and using data and other evidence of student performance to improve student learning. Participants will consider a variety of measures of academic performance by asking tough questions about data such as: What do students need to know? How will we know if students have learned it? What will we do if students have not learned what they need to know? Working steadily and continuously as a team, school faculty and administrators can become successful with all, not just some, of their students.

Leadership Academies

The goal of all Leadership Academies is to create a network of skilled and knowledgeable teacher leaders, administrators and family members who will serve as effective agents of change. The participants are predominantly teams of educational professionals from schools and/or districts who are organized to advance the knowledge and practice related to systems change and school improvement. The Leadership Academy creates a forum for open discussion and learning to help school and community members think more broadly and systemically about school improvement.

The following are the Leadership Academies in this module.

Academy 1: Mining Meaningful Data

This Academy helps participants develop their skills to analyze data over time to adjust and improve their strategies for instructional improvement. The activities in this module begin with personal reflection by participants on values and beliefs about the identification, collection and use of data for school improvement. It continues with a brief overview of the new accountability systems, moves to current methods being used by school systems and how this affects all students, and ends with an activity that requires participants to continue their reflection on tracking data that they can use to prepare for subsequent activities. Participants use data from their own school or another school in their state to begin to examine the link between data and practice changes.

As a result of the activities and information shared at this Leadership Academy, participants will:

- Clarify their reasons or rationale for using data to change practice.
- Identify and align meaningful data to renew their school improvement efforts to be more culturally responsive.
- Determine what data should be used to guide practice.
- Use school wide improvement survey and other forms of displaying outcomes to analyze data.

Academy 2: Identifying School-wide Patterns of Student Performance

This Academy helps participants develop their skills to analyze and use data over time to adjust and improve their strategies for instructional improvement.

As a result of the activities and information shared at this Leadership Academy, participants will:

- Identify a set of questions that will continually guide their leadership efforts for culturally responsive practices.
- Match the kinds of data that can be collected with those questions.
- Establish an ongoing process for measuring change effects.
- Understand the impact of progress in the building from a complex framework of change mechanisms.

Academy 3: Looking at Student Work to Target Instruction

In this Academy, participants learn to examine student work samples to target instruction and link aggregated student work data to make changes school wide.

As a result of the activities and information shared at this Leadership Academy, participants will:

- Lead a protocol with faculty on student work samples.
- Assist faculty in defining goals for enhancing their teaching practice with all students.
- Aggregate information from student work sample meetings to identify new targets for professional development, outreach to families and technical assistance to teachers or programs within the building.

Data Mining

Academy 1: Mining Meaningful Data



Academy 1: Mining Meaningful Data

This Academy helps participants develop their skills to analyze data over time to adjust and improve their strategies for instructional improvement. The activities in this module begin with personal reflection by participants on values and beliefs about the identification, collection and use of data for school improvement. It continues with a brief overview of the new accountability systems, moves to current methods being used by school systems and how this affects all students, and ends with an activity that requires participants to continue their reflection on tracking data that they can use to prepare for subsequent activities. Participants use data from their own school or another school in their state to begin to examine the link between data and practice changes.

Module Outcomes

As a result of the activities and information shared in this Leadership Academy, module participants will

- Clarify their reasons or rationale for using data to change practice.
- Identify and align meaningful data to reform their school improvement efforts.
- Determine what data should be used to guide practice.
- Use school wide improvement survey and other forms of displaying outcomes to analyze data.

Activities and Lecturettes

These activities and lecturettes support the Leadership Academy's purpose and outcomes:

Activity #1: Mining Report Card Data

This activity gives participants an opportunity to evaluate report cards for gathering data about a school.

Lecturette #1: Mining System-Wide Data

This presentation outlines issues that influence data collection and use. The lecturette will build on Activity 1. It provides the basis for Activity 2.

Activity #2: Diverse Instructional Data

This provides an opportunity for participants to identify various data available to instructors for supporting change in their schools.

Lecturette #2: Identifying Evidence That Will Change Practice

This lecturette outlines change issues that teachers face in the school. It provides the basis for Activity 3.

Activity #3: Using Data to Support School Improvement

Strong instruction comes from accurate and timely information about individual students: their capacities, experiences and knowledge base that can be activated in order for them to engage as fully as possible in new learning situations. In the old paradigm, teachers taught the curriculum without the advantage of understanding individual student needs, thus leaving out or gliding over individual differences. In the new accountability paradigm, assessment is about continuously improving the teachers' performance and, ultimately, improving kids' access and mastery of content and learning skills.

Agenda

We constructed this Leadership Academy to occur within a 3-hour timeframe with 15 minutes or so for breaks and other time adjustments. The times listed below are approximate but reflect the time these activities and lecturettes have previously taken. Facilitators should be flexible, read their audience, and work to achieve the overall purpose and outcomes.

TIME	EVENT
15 min	Introductions and Greetings
30 min	Activity 1: Mining Report Card Data
20 min	Lecturette 1: Mining System-wide Data
30 min	Activity 2: Diverse Instructional Data
10 min	Break
15 min	Lecturette 2: Identifying Evidence that will Change Practice
20 min	Activity 3: Using Data to Support School Improvement
30 min	Leave-taking and Feedback

Introductions and Greetings

Spend some time introducing yourself, the module sponsors, and the Leadership Academy to the participants.

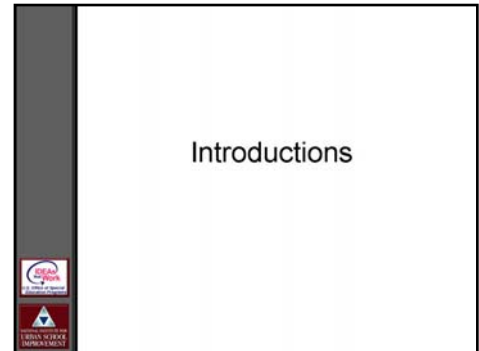
To facilitate this introduction, use the Academy Overview PowerPoint; it provides the background, Academy purpose and objectives, and the agenda. If time allows, ask participants to introduce themselves by letting others know where they are from and their roles and responsibilities within their buildings.

Facilitator Materials

Academy Overview

Time Limit

15 minutes





Module 2: Mining Data - Academy 1: Mining Meaningful Data

Activity 1: Mining Report Card Data - Background

This activity gives participants an opportunity to evaluate school report cards in terms of the quality and relevance of the data provided.

Activity Sections

- Part 1: Examining School Data
- Part 2: Comparing School Data
- Part 3: Debrief

Complete Activity Takes 30 Minutes

Activity 1: Mining Report Card Data

Activity 1, Part 1: Examining School Data

Facilitator Materials

None

Participant Materials

Chart paper; *Sample School Report Card*

Provided are data from Abraham Lincoln High School. You will probably want to use data from districts other than the ones your participants are from so they won't get wrapped up in whether or not the data are correct. Here are the instructions to get alternative school profile data.

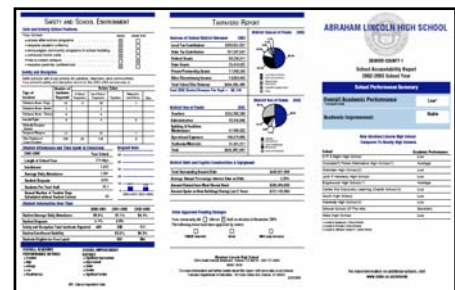
1. Go to the School Accountability Reports web page: <http://www.state.co.us/schools>
2. Select your school district in the "list search" menu.
3. Select a school.
4. Click on the "See Detailed Report" for the full school data summary.

Activity Purpose

This activity allows participants to closely examine what data may be gathered from a single assessment and then reflect on how data informs the public.

Activity

Break into small groups of 5-7 participants. Allow participants time to browse through the report card and get a sense of what it contains. In small groups, ask participants to use the report card to respond to this challenge: **What questions are you able to answer about the school?**



Groups should write their questions on chart paper and hang them on the walls when they complete the activity.

Facilitator Note

Breaking into groups can be a time consuming event. Be prepared for how you will handle this so your time isn't wasted on this part of the activity. Will the name tags have codes on them to facilitate this process? Will they be grouped by proximity?

This report card is lengthy. You may wish to suggest that groups assign different parts of the report card to different participants within each group.

Remind participants that the activity asks them to form questions and not to choose data that the report card provides.

Activity Time Limit

10 minutes

*Activity 1, Part 2: Comparing School Data***Facilitator Materials**

None

Participant Materials

None

Activity Purpose

Participants broaden their understanding of assessment and data in this activity.

Activity

Invite participants to look at the results of the other groups' results to Activity 1. These should already be posted on chart paper around the room. Ask them to compare and contrast the answers to their own group's conclusions.

Facilitator Note

Getting participants up and out of their seats may be challenging. Few people want to be the first one to start the activity, especially so early in the Academy when few may know each other. A possible remedy for this situation may be to ask participants to pair up for this activity.

Activity Time Limit

10 minutes

*Activity 1, Part 3: Debrief***Facilitator Materials**

None

Participant Materials

None

Activity Purpose

This debrief allows the group to reflect on the questions and further analyze the report card.

Activity

Return to a whole group. Ask participants to volunteer questions that groups came up with for the activity and the parts of the report card. Are all the questions important? Are any questions missing? What else would the public like to know that isn't on the report card?

Facilitator Note

None

Activity Time Limit

10 minutes

Lecturette 1: Mining System-Wide Data

This lecturette outlines issues that influence data collection and use. The lecturette will build on Activity 1. It provides the basis for Activity 2.

Facilitator Materials

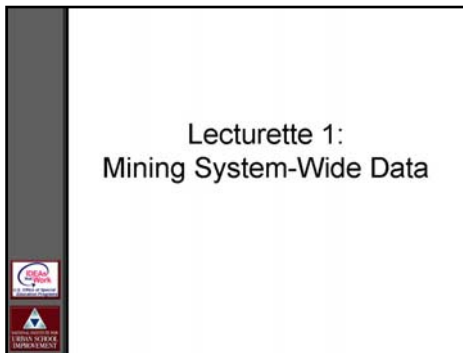
Lecturette 1 PowerPoint

Outcomes Met in Lecturette

- Clarify their reasons or rationale for using data to change practice.

Complete Lecturette Takes 20 Minutes

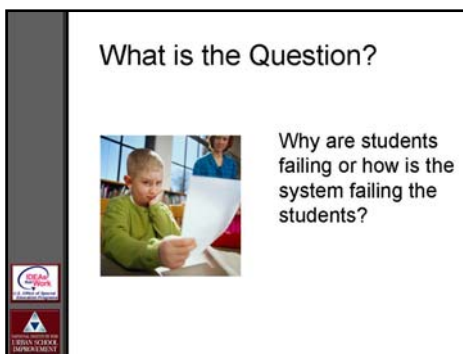
Slide
1



Lecturette 1: Mining System-wide Data:

This lecturette explores the relationship between student learning and accountability. It also presents questions that ensure the data collected is meaningful. It introduces the Systemic Change Framework and how data affects interaction among its levels.

Slide
2



What is the question?

Many times the question asked of system-wide (district, school and classroom) student data is: Why are students failing in our district, school or classrooms? This question assumes that students lack something to achieve better results. Sometimes the question is rephrased to ask: How are our schools or classrooms failing students? However, this question often leads us to assume

that principals or teachers are lacking something to achieve better results.

Facilitator Instructions:

Recalling the previous activity about school report cards, discuss the following question and the assumptions with the participants: Why are students failing or how is the system failing the students? Spend about 5 minutes on this topic.

Discussion starters:

Grading Practices – Is it “fair” to grade all students with the same measurement? For example: Should students with disabilities be required to pass a standardized test in order to graduate from high school?

Access to Resources – Do students have access to what they need to succeed? For example: Are there enough computers available for a class of beginning computer programmers?

Timing – When is the exam given? For example: Is the required high school exam on civics given before all 9th graders have taken Civics 101?

Relevance – Do students care about the subject? For example: Does the state require that all high school biology classes include labs on pest control because the farmers in the state are losing a lot of crops to insects?

Slide
3



Opportunities to Improve Chances for Learning:

Curriculum: Curriculum must meet all students’ learning abilities. This includes students with special needs through students who require advanced material.

Instruction: Excellent instruction ensures that students reach their highest potential. This instruction is tailored to each individual and challenges students’ abilities without pushing

them beyond their capabilities.

Mentoring: Students are given chances to mentor each other. Providing opportunities for additional learning, this allows students another way to learn material.

High Quality Teachers: One of the best ways to accomplish chances for student learning is to hire high quality teachers. These teachers are capable of using excellent curriculum, instruction and mentoring. They are well qualified in their field and experience.

Safe Schools: Students are more likely to succeed if they feel safe in school. They can focus on school work instead of self preservation.

Technology: Having access to technology improves chances for learning. Using computers and the Internet are standard in teaching and learning.

Physical Facilities: School should be a comfortable place to learn. Students should have adequate space, materials and temperature for optimal learning.

Facilitator Instructions:


Discuss ways that these opportunities can improve student learning. Specifically, what kinds of opportunities can be given? Spend about 5 minutes on this topic.

Discussion starters: After school tutoring, Saturday School, etc.

Slide
4

Accountability

- Accountability for student achievement crosses all boundaries of the system – classroom, school, and district levels.
- An effective accountability system does not assume that one assessment meets everyone's information needs.



Accountability:

Accountability in education today crosses all boundaries of the system. State, district, school, and classroom data are all necessary to inform an effective accountability system.

An effective accountability system does not assume that one assessment can meet everyone's information needs. It is imperative that educators keep in mind the diverse information needs of

each systemic level and select and use the appropriate assessments or measures to meet their needs. Data used to inform the superintendent or school board is not necessarily the most effective data to inform the classroom teacher or student. (Stiggins, 2002)



Facilitator Instructions:

Discuss why accountability crosses all boundaries of the system. Invite participants to share their thoughts.

Slide
5

If we seek to improve student performance we must focus on the work or learning experiences we provide to students (Schlechty, 2002).

How are the learning experiences provided by our district, school or classrooms failing these students?

Reframing Questions:

If we are seeking to improve student performance, then we need to focus on the work or learning experiences we provide to students (Schlechty, 2002). Thus, we would reframe the question from: Why are students failing or how is the system failing the student? To: How are the learning experiences provided by our district, school or classroom failing these students? This allows us to

target the quality of work and support at all levels that encourage and support improved student learning.

Facilitator Instructions:


What does this reframing do? Why is it important? Lead a short discussion about this topic.

Slide 6

Questions for Selecting Meaningful Data

- What evidence would demonstrate that we are fulfilling the commitments embedded in our mission statement?
- Do we have any existing, ongoing goals that lack baseline data from which to measure progress?

Holcomb (1999)



Questions to Think About:

To help our educational system, Holcomb provides these questions for schools to identify data and address their improvement goals. To improve all aspects of school functions – from student learning to administrative functioning. [Citation: Holcomb (Holcomb, 1999)]

Facilitator Instructions:


Refer to the school’s or district’s mission statement.

Slide 7

Questions for Selecting Meaningful Data

- What evidence would demonstrate that we are fulfilling the commitments embedded in our mission statement?
- Do we have any existing, ongoing goals that lack baseline data from which to measure progress?

Holcomb (1999)



Questions to Think About Cont:

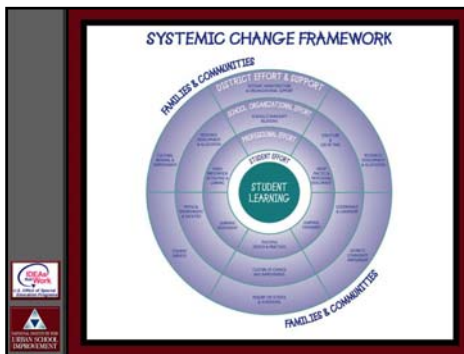
To help our educational system, Holcomb provides these questions for schools to identify data and address their improvement goals. To improve all aspects of school functions – from student learning to administrative functioning. [Citation: Holcomb (Holcomb, 1999)]

Facilitator Instructions:

Lead a short discussion about these questions on slides 6 and 7. Ask the group to identify data (sources of evidence) they would collect as a result of the questions (use hypothetical situations to get the conversation going). Would they use a state achievement test? A parent survey?

Use chart paper to collect their data suggestions. Spend at least 5 minutes on this discussion. It leads into the next slide.

Slide 8



Systemic Change Framework:

The *Systemic Change Framework* visually represents the varying levels of effort that combine to affect student achievement and learning. The four levels of the framework are interconnected, as represented by the permeable lines that delineate levels and efforts. What occurs at the district level affects the school level, which in turn affects student learning. Of course all these local levels

are constantly affected by the agendas, policies, and practices that emerge from state educational organizations and national governmental activities.

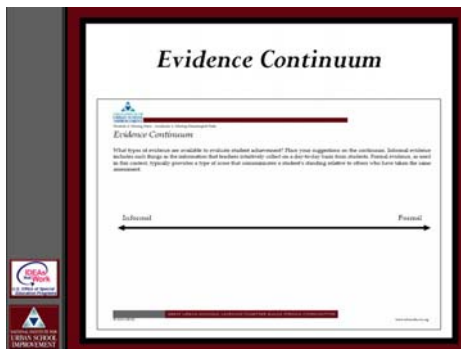
What is the Systemic Change Framework – how does data /accountability relate?

Data are produced at the boundary of interaction between the unit and the larger environment. Therefore, changes in the classroom are felt at different levels of the system. For example, when two teachers decide to team-teach their math and reading periods, the teachers change their professional effort at the group practice level.

Facilitator Instructions:

Referring back to the sources of evidence they suggested on the previous slides, discuss where they fall on the SCF – at district, school or classroom (professional effort) level. This shows that accountability crosses all boundaries of the system, and everyone is responsible for student achievement.

**Slide
9**



Evidence Continuum:

Have participants identify data and place on a continuum – from informal to formal evidence....
(Activity 2)

Facilitator Instructions:
Explain Activity 2 here.

Activity 2: Diverse Instructional Data - Background

This activity provides an opportunity for participants to identify various data available to instructors for supporting change in their schools.

Outcomes Met In Activity

- Clarify their reasons and rationale for using data to change practice

Activity Sections

- Part 1: Evaluation Evidence
- Part 2: A Continuum of Evidence
- Part 3: Evidence Inventory
- Part 4: Rationale for Using Data

Complete Activity Takes 30 Minutes



Activity 2: Diverse Instructional Data

Activity 2, Part 1: Evaluation Evidence

Facilitator Materials

None

Participant Materials

Sticky Notes

Activity Purpose

This activity activates prior knowledge and assists in assessing sophistication of participants.

Activity

In pairs, ask participants to reflect and respond to this question: *What types of evidence are available to evaluate student achievement?* Have pairs write each type of evidence they generate on separate sticky notes.

Facilitator Note

You may need to offer prompts to get the process started: spelling test scores, independent student book selections, etc.

Activity Time Limit

5 minutes

Activity 2, Part 2: A Continuum of Evidence

Facilitator Materials

None

Participant Materials

Evidence Continuum

Activity Purpose

This activity allows participants to identify their personal values and beliefs about the use of data to inform instructional improvement. It is important to note that we must be clear about the driving forces for data identification, collection and use before a commitment to use data can be made.

Activity

1. Still in pairs, refer participants back to the sticky notes they previously completed. Challenge them to place the sticky notes along the continuum based on whether the evidence is a fully informal or formal assessment. (5 minutes)
2. Have teams pair up and share their *Evidence Continuums*. Urge them to rethink their evidence placements as they talk with each other. (10 minutes)



Facilitator Note

The facilitator should define and provide examples of evidence that range from subjective, informal assessments such as teacher observations to wholly objective, formal assessment tools that are standardized and scored outside of the classroom.

Informal assessments include information that teachers intuitively collect on a day-to-day basis from students. Observant and reflective teachers can walk through a classroom and make mental notes of the kinds of challenges and accomplished performances that students are encountering. They come back to these mental notes to help a student practice a particular skill, expand their vocabulary, extend their problem solving or engage in alternative learning activities. All these adjustments in teaching are made through the teachers' knowledge of the content and their performance expectations. In addition, teachers may have and use informal assessments that they have found useful, including interview protocols for reading comprehension or mathematical thinking. These kinds of assessments tend to include criterion referenced indicators of success.

Formal assessment tools, as used in this context, typically provide a type of score that communicates a students' standing relative to others who have taken the same assessment. These assessments present teachers with measurements that may be used to compare students to one another, themselves, or even to a standard. Skillful teacher



utilize evidence from their assessments to build curriculum and to assess their own instructional strategies. When teachers use the formal assessments in conjunction with their own informal assessments, they provide their students with a rich environment that not only meets curriculum standards for the school, but also personalizes the instruction for each student in the classroom. The formal assessments tend to include norm- referenced assessments, include paper and pencil activities, standardized test, and evidence of satisfactory completion of state or national standards.

Activity Time Limit

15 minutes

Activity 2, Part 3: Evidence Inventory

Facilitator Materials

None

Participant Materials

Student Performance Evidence Inventory

Activity Purpose

To engage the group in building shared vocabulary about data and to distinguish between kinds and purposes of data.

Activity

Ask participants to complete the *Student Performance Evidence Inventory*. Use the *Data Inventory* to brainstorm with the group for additional data that may be used to evaluate effective school setting issues. Identify which group the data falls into- contextual, formative or summative.

Contextual Data	Formative Data	Summative Data
parent education level	teacher grade books	surveys
special program enrollment	portfolios	graduation rate
attendance record	department level tests	classroom behavior
discipline record	grade level tests	principal/teacher observations
primary language	observations	parent feedback

You should describe the three types of evidence used to hone instruction: contextual, formative, and summative. Each of these categories of evidence helps teachers (1) understand and know their students (contextual), (2) assess students progress (formative), and (3) judge outcomes (summative). All three are important since teachers need to plan their instructional strategies. Contextual data includes statistical

information about the characteristics of students and their families. This data may be gender, age, primary language, etc. Formative data includes projects and assessments done within the classroom and by students. They may or may not be officially graded. Some formative data may be subjective, such as teacher observations, and some may be objective, such as standardized tests. The third type, summative data, is similar to student learning. However, summative data is collected by the teacher to evaluate if instruction is effective. Examples might include: classroom behavior, principal/coach observations, and parent feedback.

Facilitator Note

Examples of Formative Evidence: teacher- made tests, publishers' tests, state-level tests, report cards, exhibitions, portfolios, performance tasks, district-level tests, department level tests, grade-level tests, surveys, observations, graduation rate, classroom work, homework, video tapes, and projects.

Examples of Contextual Evidence: language proficiency, parent education level, gender, special program enrollment, attendance record, mobility rate, socio-economic status, family configuration, family support, parent language proficiency, community services, student-age, pre-school experience, discipline record, and primary language.

Examples of Summative Data: surveys, graduation rate, classroom behavior, principal/coach observations, and parent feedback.

Activity Time Limit

5 minutes

Activity 2, Part 4: Rationale for Using Data

Facilitator Materials

None

Participant Materials

None

Activity Purpose

This activity allows participants to reflect on why data is important.

Activity

Ask participants to brainstorm some reasons why they may use data in their everyday situations. What are their reasons and rationale for using data to change practice?

Facilitator Note

None

Activity Time Limit

5 minutes

Lecturette 2: Mining Classroom Data

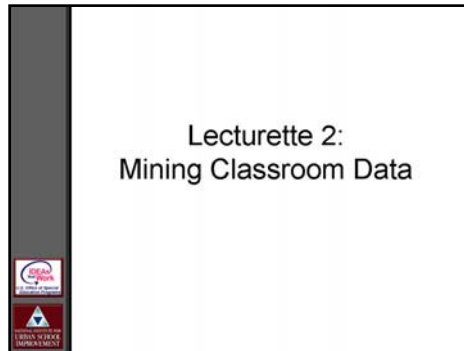
This lecturette outlines change issues that teachers face in the school. It provides the basis for Activity 3.

Facilitator Materials

Lecturette 2 PowerPoint

Complete Lecturette Takes 20 Minutes

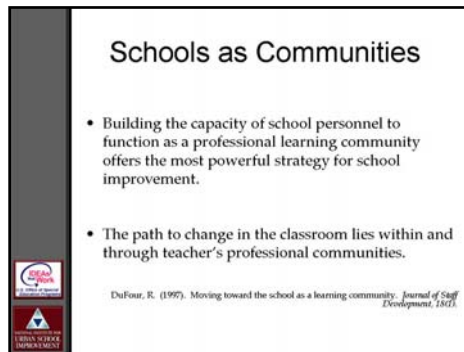
Slide
1



Lecturette 2: Mining Classroom Data:

This lecturette explores the relationship between professional learning communities and student learning. It looks at various kinds of evidence. Finally, it examines the importance of daily data collection to improve teaching and learning.

Slide
2



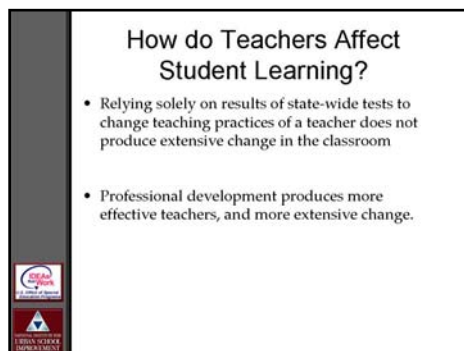
Schools as Communities:

DuFour, R. (1997). Moving toward the school as a learning community. *Journal of Staff Development*, 18(1).

Facilitator Instructions:

Lead a short discussion on this concept. How does building a professional school community lead to change in the classroom?

Slide
3



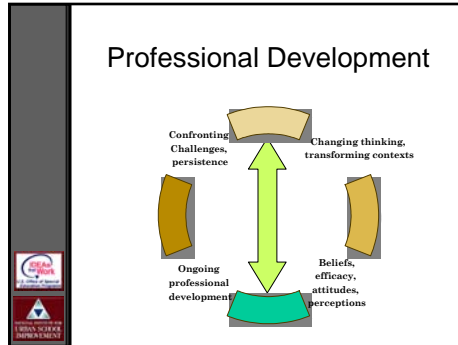
How do Teachers Affect Student Learning?

Relying solely on results of state-wide test to change teaching practices of a teacher does not produce extensive change. Teaching practices must change to improve student learning. Professional development for teachers supports change in the classroom because it develops teachers' skills and knowledge.

Facilitator Instructions:

Discuss our teacher professional development affects student learning.

**Slide
4**



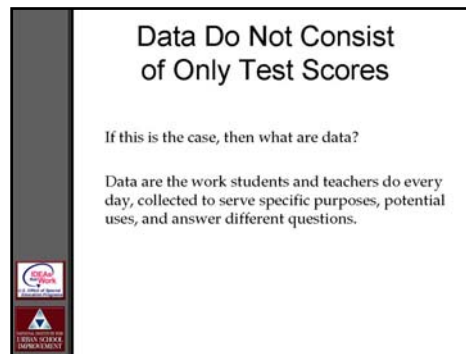
Ongoing Professional Development

Teachers and other school practitioners need to engage in ongoing professional development that helps them examine the results of their practices. By examining results in small groups of colleagues, teachers can begin to question the kinds of choices they make in their classrooms.

Teachers can ask questions about which students are able to access and engage learning activities and materials. Which students do well working in groups? What kinds of teacher scaffolding do students with different learning resources need?

This kind of professional development that generates the content of professional development from the work that teachers do, brings teachers together to learn from one another, is based on questioning their own practice is critical to helping teachers learn to work with culturally and linguistically diverse students. Strong leadership within the building for coaching, mentoring and inquiry teams is needed to make a successful shift from expert models of professional development to job embedded, critical analysis of current practice.

**Slide
5**



Data Do Not Consist of Only Test Scores

If this is the case, then what are data?

Data are the work students and teachers do every day, collected to serve specific purposes, potential uses, and answer different questions.

Data do not consist of only test scores:

Data aren't just test scores. If this is the case, then what are data? - the work that students and teachers do every day? Data are collected to serve specific purposes and potential uses and answer different questions.



Facilitator Instructions:

Refer back to the last activity in which the participants listed many types of evidence they could collect to evaluate effective instruction. Lead a short discussion on reasons data may be collected on a day to day basis. (5 minutes)

Slide 6

Evidence

It is imperative that educators consider the specific information needs to identify and use appropriate assessments or measures.

Evidence:

When identifying the assessment, one needs to ensure that students are succeeding in school and going beyond standardized tests and report cards.

In other words, the data that inform the teacher of a student's progress in math compared to other students at same grade level is not necessarily the most effective data to inform

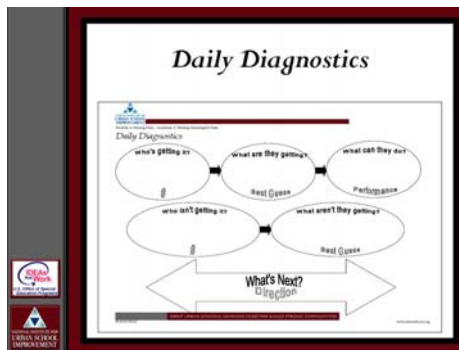
the classroom teacher of individual student's progress through the year.

Also, one assessment may not be enough to evaluate a single student's progress in a specific subject. Use multiple measures when appropriate.

Facilitator Instructions:

Provide an example of a specific occasion in which a teacher would want different data for similar information or topics. For example, a student's reading ability may be measured by standardized test scores, individual reading selection and one-on-one assessment.

Slide 7



Daily Data Collection:

Teachers must monitor their teaching each day to ensure their students are progressing. The goal is to make sure all of the students are "getting it". Are the students understanding the curriculum? If so, what are they understanding? What can they do? If not, who isn't understanding it? Why not? At the end of the day, teachers should look at what they've

accomplished that day and ask themselves: "What's next?"

How do the teachers know who's getting it and who isn't? They must use data collection throughout the day. Data collection is not an afterthought – collected periodically throughout the year. Instead, it is integrated in daily activities. Teachers must plan the data collection methods to be used when they plan their daily curriculum. Collecting data throughout the day provides opportunities for improved student learning and instruction.

Slide 8



School Improvement Data Matrix

School Improvement Data Matrix

What improvement would you like to make in our region? How does the improvement plan a part in the broader Change Process?

Issue/Problem	Current State of Practice	Desired State of Practice

School Improvement Data Matrix:

Use the handout to have each pair identify one school improvement issue they would like to resolve in their school.... (Activity 3)

Facilitator Instructions:

Explain Activity 3 here.

Activity 3: Using Data to Support School Improvement - Background

Culturally responsive instruction comes from accurate and timely information about individual students: their capacities, experiences and knowledge base that can be activated in order for them to engage as fully as possible in new learning situations. In the old paradigm, teachers taught the curriculum without the advantage of understanding individual student needs, thus leaving out or gliding over individual differences. In the new accountability paradigm, assessment is about continuously improving the teachers' performance and, ultimately, improving kids' access and mastery of content and learning skills.

Outcomes Met In Activity

- Identify and align meaningful data to renew their school improvement efforts to be more culturally responsive.
- Determine what data should be used to guide practice.
- Use a school-wide improvement survey and other forms of displaying outcomes to analyze data.

Activity Sections

- Part 1: Potential School Improvements
- Part 2: Data Matrix
- Part 3: Daily Diagnostics

Complete Activity Takes 20 Minutes



Activity 3: Using Data to Support School Improvement

Activity 3, Part 1: Potential School Improvements

Facilitator Materials

Chart paper, an overhead, or presentation slide

Participant Materials

None

Activity Purpose

To prepare the participant for Part 2 of this activity.

Activity

Ask the whole group to discuss this question: *What are some school or classroom improvements you would like to make or see happen?* List the response on chart paper, an overhead, or presentation slide.

Facilitator Note

Participants will probably respond with more school improvements than classroom improvements. This tends to happen in group settings because human nature is to keep our private challenges to ourselves. Try to obtain classroom improvements such as higher literacy scores on standardized assessments without pointing out specific participant members. Some improvements you may solicit are: more parent involvement, less student bullying, better classroom management, new books for the library/classrooms, smaller class size, and higher literacy skills.

Activity Time Limit

5 minutes

Activity 3, Part 2: Data Matrix

Facilitator Materials

None

Participant Materials

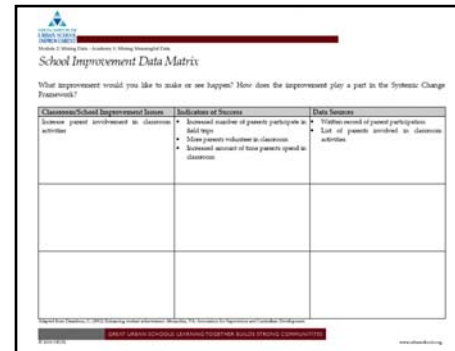
School Improvement Data Matrix

Activity Purpose

This activity is meant to show participants the value of data in making decisions and changes in their school and classrooms.

Activity

Organize participants to pairs. Using the School Improvement Data Matrix, each pair identifies one improvement issue they would like to resolve in their school or classroom. Urge the pairs to use the pool of issues from Part 1. The pairs should write a description of the issue, indicators that show the issue is being met, and data that will help evaluate the effectiveness of the school improvement effort (refer them to the Data Inventory handout for assistance).



The screenshot shows the 'School Improvement Data Matrix' form. It includes a header with the NIUSI logo and the title 'School Improvement Data Matrix'. Below the title is a question: 'What improvement would you like to make or see happen? How does the improvement play a part in the Systemic Change Framework?' The form is divided into three columns: 'Classroom/School Improvement Issues', 'Indicators of Success', and 'Data Sources'. The 'Classroom/School Improvement Issues' column contains the text 'Increase parent involvement in classroom activities'. The 'Indicators of Success' column contains a bulleted list: 'Increased number of parents participating in field trips', 'More parents volunteer in classroom', and 'Increased amount of time parents spend in classroom'. The 'Data Sources' column contains 'Folder record of parent participation' and 'List of parents involved in classroom activities'. At the bottom of the form, there is a footer with the text '© 2004 NIUSI' and the website 'www.urbanschools.org'.

Facilitator Note

None

Activity Time Limit

10 minutes

Activity 3, Part 3: Daily Diagnostics

Facilitator Materials

None

Participant Materials

Daily Diagnostics

Activity Purpose

This activity is meant to allow participants the opportunity to visually pull together data and information about a specific issue.

Activity

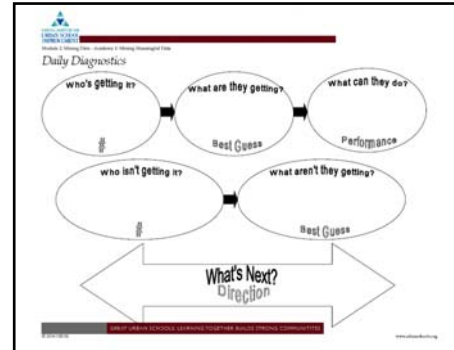
Explain that the *Daily Diagnostics* handout provides teachers with immediate feedback on an issue identified in Part 2, or any curriculum or instruction procedure. Use this handout to analyze how the matter is progressing, who is getting it, who isn't and why?

Facilitator Note

This is a take-away handout. It was thoroughly explained in the lecturette.

Activity Time Limit

5 minutes for explanation



Leave Taking

Leave Taking, Part 1: Self Assessment

Participant Materials

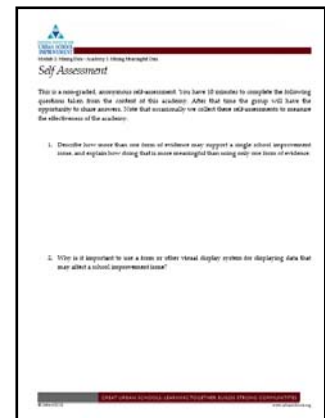
Self Assessment

Activity Purpose

The self assessment provides the participant with an objective means of evaluating the knowledge and skills gained in this academy.

Activity

Have participants complete the *Self Assessment*. Remind groups that their assessments will be collected for module assessment purposes and they do not need to put their names on the assessments.



Activity Time Limit

10 minutes

Leave Taking, Part 2: Debrief

Participant Materials

Chart paper, overhead, or presentation slide

Participant Materials

Self Assessment

Activity Purpose

This activity gives participants a chance to compare their evaluation answers.

Activity

Return to whole group and ask participants to share their responses. Use an overhead or chart paper to record what they say as a way to highlight new learning, and congratulate the group on their hard work.

Activity Time Limit

10 minutes

Leave Taking, Part 3: Academy Evaluation

Participant Materials

Academy Evaluation

Activity Purpose

This activity provides feedback for module developers from module participants.

Activity

Have participants complete the *Academy Evaluation*. This evaluation gives the module developers a chance to see how the academy is being received and allows them to improve it as needed.



The image shows a form titled "Academy Evaluation" with the following sections:

- Header:** "NIT Academy 1, B2: Leading Change" and "Please do not write your name on this form and only fill in the boxes with your name."
- Section 1:** "I am a" with radio button options:
 - General Ed teacher
 - Administrator
 - Special Ed teacher
 - Parent
 - Program/Assistant
 - Other _____
- Section 2:** "I am affiliated with:" with radio button options:
 - Elementary School
 - Middle School
 - Secondary School
- Section 3:** "If there are any other academy planning items, please write them here." (A large empty box for handwritten notes.)
- Section 4:** "As a result of my participation in this academy, I am going to..." (A box for handwritten feedback.)
- Footer:** "NATIONAL INSTITUTE FOR URBAN SCHOOL IMPROVEMENT" logo.

Facilitator Note

Collect the *Academy Evaluations* and return them to the National Institute for Urban School Improvement along with the *Self Assessments*.

Activity Time Limit

10 minutes

Resources

Ancess, J. (2000). The reciprocal influence of teacher learning, teaching practice, school restructuring, and student learning outcomes. *Teachers College Record*, 102(3), 590-619

This article discusses the reciprocal and dynamic relationship of teacher learning, teaching practice, school restructuring, and student outcomes in three high performing public secondary schools for at-risk students. Student outcomes include improvement in student graduation rates, course pass rates, college admission rates, and academic course-taking rates. The article describes each school's context and the inquiry process that stimulated teacher learning; triggered changes in teaching practice, school organization, and student outcomes; expanded teacher learning; and extended improved outcomes to a wider population of students. It describes how the interaction of these variables produced practitioner knowledge that teachers used to benefit of student outcomes. It discusses how in each of the three schools teachers' learning was initially driven by their aspirations for specific student effects, which led them to develop and implement practices that drew on their school's culture, and their knowledge of their students, successful practice, and their content area. In each case teachers made changes in their teaching practice and in school and curricular organization. This article also identifies a set of contextual conditions that support this change process. Lastly, the article presents implications for researchers, reformers, and practitioners who aim to improve student outcomes by changing teacher practice and school organization. The article is based on findings from a five-year multiple-case study of how three high schools connect disenfranchised students to their future.

Brimijoin, K., Marquissee, E., & Tomlinson, C.A (2003). Using data to differentiate instruction. *Educational Leadership*, 60(5), 70-73

Part of a special issue on using data to improve student achievement. An overview of how one teacher uses assessment data to differentiate instruction is presented. The teacher uses multiple methods of data collection and believes her role as data collector is to determine students' prior understanding and achievement, track their responses to moderate challenges, and measure their outcomes against expected performance goals. She uses a wide array of pre-assessments when teaching new content and uses assessment to modify instruction so that each student is appropriately challenged. To prepare for state standards testing, she asks students to select topics that need more work and sets up centers to serve students' needs. In addition, this teacher uses assessment to target learner needs.

Brown, K. & Capp, E., Robert (2003). *Better data for better learning. Leadership*, 33(2), 18-19

A standards-based assessment program at Rocklin Unified School District in Rocklin, California, uses technology to link assessments directly to standards, producing timely reports that teachers and administrators can use to monitor student progress and hone the curriculum. The four steps

involved in this program include distributing assessments to students, scanning their answers into the classroom computer, using Web technology to collate the data, and using the data to quickly identify potential areas of concern.

Cabrera, A.F., Colbeck, C.L., & Terenzini, P.T. (2001). Developing performance for assessing classroom teaching practices and student learning. *Research in Higher Education*, 43(3), 327-354

Several states are requiring instructions to document changes in student outcomes. Regional and specialized accrediting agencies are also changing their review criteria from measuring inputs to assessing indicators of student learning. This article describes the results of an evaluation project that sought to develop performance indicators of learning gains for undergraduate engineering students. Specially, the study investigated the relationship between classroom practices and students' gains in professional competencies. More than 1,250 students from 7 universities participated. Findings show that the instructional practices of Instructor Interaction and Feedback Collaborative Learning, and Clarify and Organization are significantly and positively associated with gains in students' self-reported gains in problem-solving skills, group skills, and understanding of engineering as an occupation. The indicators meet several conditions recommended by the assessment literature. They are (1) meaningful to the user, (2) reliable and valid, and (3) index observable behaviors rather than subjective impressions.

Mason, Sarah (2002). *Turning Data into Knowledge: Lessons from Six Milwaukee Public Schools*. Wisconsin Center for Education Research, April 2002.

McTighe, J. & Thomas, R..S (2003). Backward design for forward action. *Educational Leadership*, 60(5), 52-55.

Part of a special issue on using data to improve student achievement. Schools can integrate improvement initiatives at the school and district levels by using a three-stage backward design process that looks back to key concepts and essential questions that underlie content standards. School improvement planning should begin with a consideration of desired learning results, making students' understanding of key concepts and searching for answers to provocative questions the primary goals of teaching and learning. The second stage of backward design involves school teams in analyzing multiple sources of data, rather than a single test, to assess whether students have achieved the desired learning. The final stage requires teachers to plan learning experiences that help students understand key concepts and requires school improvement teams to generate action plans to obtain the desired student achievement results.

NEA Foundation for the Improvement of Education Spring 2003 No. 5

Popham, J.W. (2003). The seductive allure of data: Using data to improve student achievement. *Educational Leadership*, 60(5), 48-51

This article examines how teachers can use classroom data to improve teaching and learning, focusing on how to determine if data is reliable and useful. Topics include designing instructionally useful educational test and analyzing data from standardized achievement tests.

Schmoker, M. (2003). First things first: Demystifying data analysis. *Educational Leadership*, 60(5), 22-24

If teachers are to determine which data can be used to improve teaching and learning, then they need to overcome experts' tendencies to complicate to use and analysis of student achievement data. Teachers can set the stage for targeted and collaborative efforts that can pay immediate dividends in terms of achievement gains if they know how many students are succeeding in the subjects they teach and the areas of strength or weakness within those subjects. However, the extended, district-level analyses and correlation studies that some districts conduct can result in over analysis and overload. This overload problem could be resolved by developing a simple template for a focused improvement plan with annual goals for improving students' state assessment scores.

Taylor, B.M., Peterson, D.S., Pearson, P.D., & Rodriguez, M.C. (2002). Looking inside classrooms: Reflecting on the 'how' as well as the 'what' in effective. *Reading Teacher*, 56(3), 270-280

This article discusses a subset of findings from year 1 of a larger national study on school reform in reading (Taylor, Pearson, Peterson, & Rodriguez, 2001) funded by the Center for the Improvement of Early Reading Achievement (CIERA). The purpose of the larger study was to evaluate the impact of all aspects of school reform on student performance. The purposes of the present, more focused analysis are to (a) describe the teacher practices we observed in the classrooms, particularly those that are derived from the research of the last four decades; (b) examine the relationship between teachers' practices and students' growth in reading achievement; and (c) provide vignettes that vividly describe what those practices look like in action.

Taylor, L.K. & Shawn, J. (2003). The long and winding road to accountability. *Leadership*, 32(3), 32-33.

The writers describe the Monrovia Unified School District's accountability system. This system involves data analysis and target-setting, monitoring progress, reports on progress, oral reports to the board of education, liaison support, and teacher evaluation. The accountability system has had an effort on instructional leaders and staff and has fostered an awareness of specific student needs, encouraged professional conversations about student work and instructional successes, and focused efforts across activities. Moreover, it has benefited students, as illustrated by improvements in student work, student engagement, and instruction.

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Glossary

Building Leadership Team

A Building Leadership Team is a school-based group of individuals who work to provide a strong organizational process for school renewal and improvement.

National Institute for Urban School Improvement

The National Institute for Urban School Improvement (NIUSI) is funded by the Office of Special Education Programs at the U.S. Department of Education. The mission of NIUSI is to support the building of capacity in urban schools and school districts so that students with disabilities are engaged in high quality curriculum and learning experiences that improve their ability to succeed in school and in post-school opportunities.

Systemic change framework

The *Systemic Change Framework* visually represents the varying levels of effort that combine to affect student achievement and learning. The four levels of the framework are interconnected, as represented by the permeable lines that delineate levels and efforts. What occurs at the district level affects the school level, which in turn affects student learning. Of course all these local levels are constantly affected by the agendas, policies, and practices that emerge from state educational organizations and national governmental activities.