NATIONAL INSTITUTE FOR URBAN SCHOOL IMPROVEMENT

MODULE

2

Mining Data

Academy 3 v.1: Looking at Student Work to Target Instruction

Facilitator's Manual

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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 Collect Evidence?

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.

NATIONAL INSTITUTE FOR URBAN SCHOOL IMPROVEMENT

Data Mining

Academy 3: Looking at Student Work to Target Instruction

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.

Module Outcomes

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

Activities and Lecturettes

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

Activity #1: Student Work Analysis

In this activity participants will determine the use and significance of student work in informing instructional decision making.

Lecturette #1: Looking at Student Work

This lecturette provides a means of understanding the ways in which schools have used inquiry and data to make decisions about classroom and school practices.

Activity #2: Identifying Patterns in Data to Improve Instruction

This activity allows participants to determine how to make better use of student data.

Lecturette #2: Steps to Improve Data Use

This lecturette provides information on how to gather data from multiple sources to positively change instruction based on reliable measures.

Activity #3: Gathering Data to Inform Practice

The activity is designed to assist participants in immediately implementing goals for improving instructional practice.

Agenda

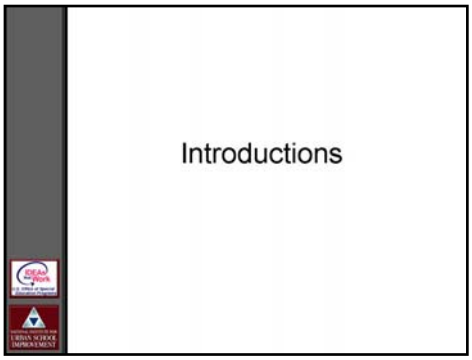
We constructed this Leadership Academy to occur within a 3-hour timeframe with 15 minutes or so for breaks and other time adjustments. The times listed below are approximate but reflect the time these activities and lecturettes have previously taken. Facilitators should be flexible, read their audience,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

TIME	EVENT
15 min	Introductions and Greetings
30 min	Activity 1: Student Work Analysis
20 min	Lecturette 1: Looking at Student Work
25 min	Activity 2: Identifying Patterns in Data to Improve Instructions
10 min	Break
20 min	Lecturette 2: Steps to Improve Data Use
25 min	Activity 3: Gathering Data to Inform Practice
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

Activity 1: Student Work Analysis - Background

In this activity, participants determine the use and significance of student work in informing instructional decision making.

Outcomes Met In Activity

- Lead a protocol with faculty on student work samples.

Activity Sections

- Part 1: Student Work Samples
- Part 2: Student Work Analysis

Complete Activity Takes 30 Minutes

Activity 1: Student Work Analysis

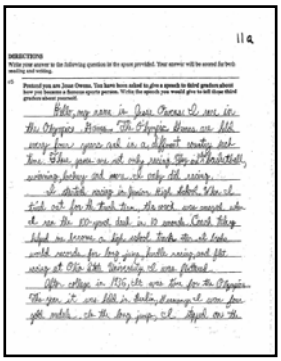
Activity 1, Part 1: Student Work Samples

Facilitator Materials

None

Participant Materials

Student Work Samples



Provided are third grade samples varying from low to high writing abilities. You may wish to use data from other grade levels. You may use your own. Below are links for obtaining additional samples.

Delaware Department of Education, Sample Test Items:
http://www.doe.state.de.us/aab/DSTP_items.html
(Look for writing samplers that show a variety of work.)

Delaware Student Testing Program, Item Sampler 1:
http://www.doe.state.de.us/aab/Writing%20Prompts%202001%20Commentaries.pdf

Delaware Student Testing Program, Item Sampler 2:
http://www.doe.state.de.us/aab/writing1998.pdf

Note: If you use writing samples other than the ones provided, make sure there are no teacher comment included. This activity challenges participants to make critical decisions about the writing samples and comments may interfere with the purpose of the activity.

Activity Purpose

Participants analyze student responses to writing prompts.

Activity

Have participants review the *Student Work Samples* and direct them to look for patterns among student samples, discrepancies between samples, if the students followed directions, etc. Urge the participants not to grade the samples. Tell them to look beyond

spelling and grammar errors and look at the bigger picture. Notify participants that they will use their observations to complete the next activity.

Facilitator Note

This activity takes a lot of concentration. Try to keep the environment quiet so participants have the opportunity to read without a lot of disturbance. You may have the option to let participants choose their own places to read: hallway, other classrooms, etc. Be sure to let them know when to be back so the activity stays within the timeframe.

Activity Time Limit

15 minutes

Activity 1, Part 2: Student Work Analysis

Facilitator Materials

None

Participant Materials

Student Work Analysis

Activity Purpose

Participants generate the concept that actual student sample evaluation is a necessary part of school improvement efforts.


Student Work Analysis

Student Work Sample:

Questions for Reflection	Responses
What do kids understanding?	Sample 1 Sample 2 Sample 3 Sample 4 Sample 5
What don't kids understand?	Sample 1 Sample 2 Sample 3 Sample 4 Sample 5
What stands out	Sample 1 Sample 2 Sample 3 Sample 4 Sample 5
What are the commonalities?	
What needs for additional instruction or school improvement might arise from this student	

Activity

This activity engages participants in discussion of the samples, empowering them to interpret what they mean. In groups, participants complete the analysis. This activity is a prerequisite to analyzing the samples further in the next activity.

Break into groups of 5-7. In groups, have participants share their observations to complete the analysis:

What do kids understand? Are they showing appropriate sentence structure? Is the writing organized? Did students show understanding of content?

What don't kids understand? What's missing?

What stands out? Any glaring omissions or errors?

What are the commonalities? What's shared among all the samples?

What needs for school improvement might arise from these samples? What can the school or teacher do to improve student understanding or skills of the topic or writing? Is anything already working that can be built upon? Does anything need to change?

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?

Activity Time Limit

15 minutes

Lecturette 1: Looking at Student Work

In the last Academy we discussed the need for ongoing student assessment, understanding that focused work can lead to improved student learning. The purpose of today's work is to gain a better understanding of the ways in which schools have used inquiry and data to make decisions about classroom and school practices.

Facilitator Materials

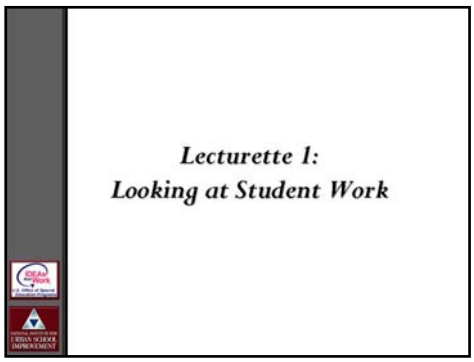
Lecturette 1 PowerPoint

Outcomes Met In Lecturette

- Lead a protocol with faculty on student work samples

Complete Lecturette Takes 20 Minutes

Slide 1



Lecturette 1: Looking at Student Work:
Student work provides us with patterns with which to inform our instruction. These patterns show input, output and conceptual errors. Using multiple assessments, we can identify the patterns and improve student learning.

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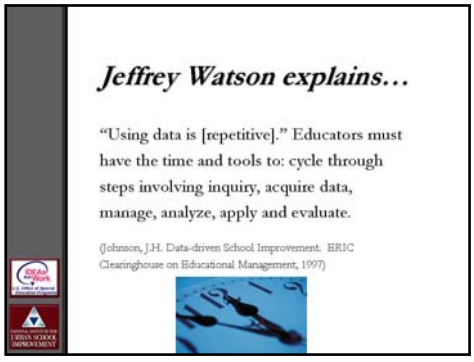

Jeffrey Watson Explains:
There is a cycle for using data. You look at, gather, analyze, apply, evaluate and do it again and again. There is no end to the cycle. The evaluation stage should push you to analyze data in a new way, or see the need to gather new or different data.

Slide 3

Conclusions reached through data analysis:
Do not draw your conclusions on one source of data. If a measure provides you with information that causes concern, conduct another analysis. Only with multiple sources can you reach a valid conclusion.

Slide 4

What does this work reveal about student learning and performance?
If we analyze multiple measurements over time, we should see patterns in particular students' works. Patterns are a starting point for helping students get the skills and knowledge they are missing. Once patterns are identified, we are able to reassess our situation and move forward with instruction.

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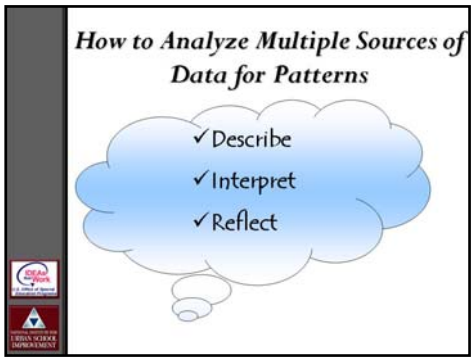
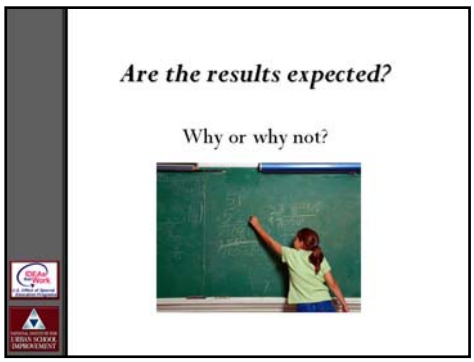


How to Analyze Multiple Sources of Data for Patterns:
When analyzing more than one source of data, perform the same examinations on each:
Describe: What is each form of data measuring?
Interpret: What is each form of data telling you?
Reflect: Are the measurements describing and interpreting in a similar manner?

Slide 6

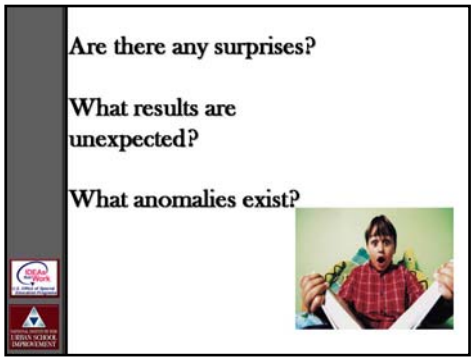


Are the Results Expected?
Assessments aren't perfect. Be aware of the results. Are they accurately assessing the situation? Do you need to reassess? Do you need to use a different assessment?

Facilitator Instructions:
Sometimes assessments give inaccurate results. Make sure you convey that to the participants. Participants should use their best judgment when analyzing data. Perhaps the environment was compromised (the AC wasn't working) or the directions were

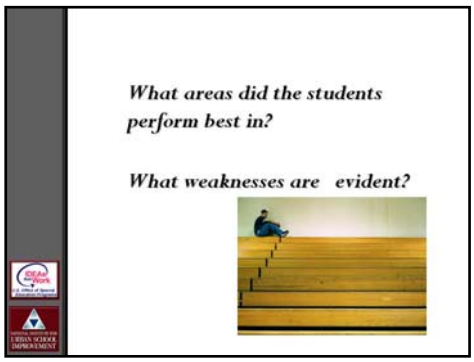
incomplete. Use this as an opportunity to remind them that this is why you use multiple assessments to analyze student performance.

Slide 7



Surprises?
Assessments sometimes reveal surprises. You may have thought that your students understood a particular issue, but the assessment shows otherwise. Take this opportunity to use another assessment to reevaluate this item and be sure that your students are learning what they need to know.

Slide 8



Strengths and Weaknesses:
An assessment's data of students' strengths and weaknesses are a good way to evaluate your instructional strategies.

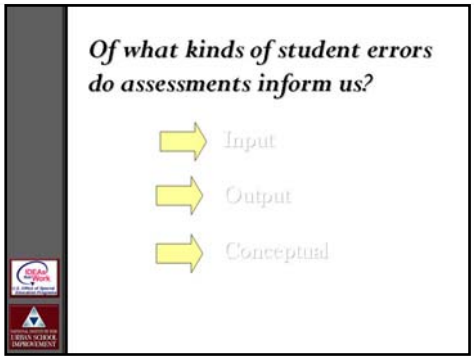
Slide 9

Questions?
At this point, what else do you need to know? Do you need further data? Are you ready to move forward?

Slide 10

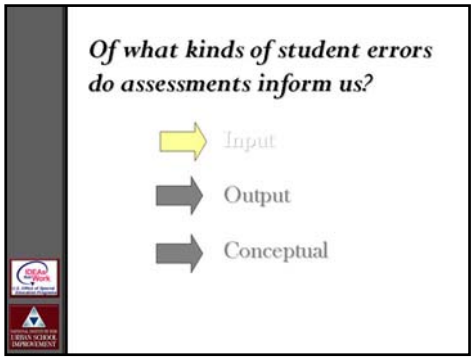
How Good is Good Enough?
Assessments show student errors and if you track patterns, then you can evaluate the severity of the problem. Is the error significant? Is good, good enough?

Slide 11



Of what kinds of student errors do assessments inform us?
The three kinds of thinking that assessments measure are recall, evaluation of product, or conceptual thinking.

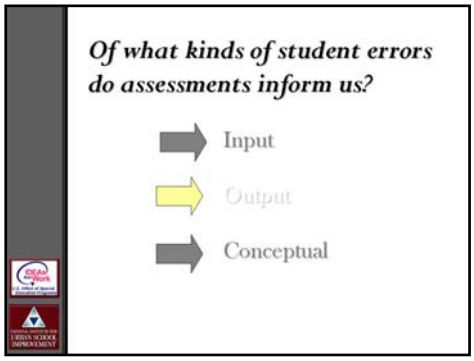
Slide 12



Of what kinds of student errors do assessments inform us?
Input errors: Students have input errors when the assignment or task has lack of meaning or they misunderstand the instructions. Are the instructions clear? Is there too much information? Is there chaos?

Facilitator Instructions: Ask participants for examples of input errors.

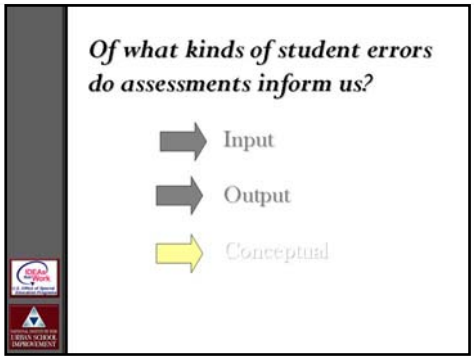
Slide 13



Of what kinds of student errors do assessments inform us?
Output errors: Students have output errors when they don't complete the task or did not complete it to accurate specifications. Is there enough background knowledge? Is the environment conducive for the task? Are there resources available?

Facilitator Instructions: Ask participants for examples of output errors.

Slide 14

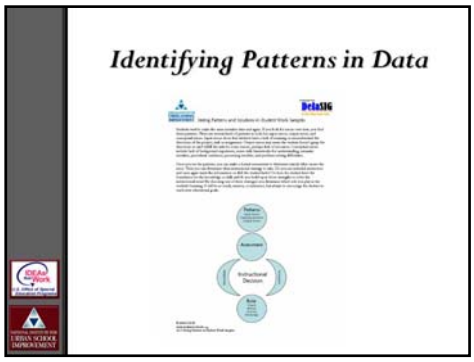


Of what kinds of student errors do assessments inform us?

Conceptual errors: Students have conceptual errors when they don't complete the task incorrectly. Some errors include: not enough background experience, incomplete frameworks for understanding, semantic errors, procedural issues, lack of problem solving skills, or processing errors.

Facilitator Instructions: Ask participants for examples of conceptual errors.

Slide 15



Identifying Patterns in Data:

Allow the groups time to identify patterns and note which ones they find…. (Activity 2)

Facilitator Instructions:

Explain Activity 2 here. Use the timecard PowerPoints [A2.3 timecards.ppt] (Section 24) to help move the activity along.

Activity 2: Identifying Patterns in Data to Improve Instruction - Background

This activity allows participants to determine how to make better use of student data.

Outcomes Met In Activity

- Assist faculty in defining goals for enhancing their teaching practice with all students

Activity Sections

- Part 1: Seeing Patterns
- Part 2: Jigsaw

Complete Activity Takes 25 Minutes

Activity 2: Identifying Patterns in Data to Improve Instruction

Activity 2, Part 1: Seeing Patterns

Facilitator Materials

None

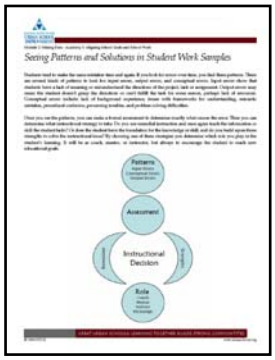
Participant Materials

Seeing Patterns in Student Work Samples

Activity Purpose

This activity generates the concept that identifying the patterns and challenges that exist and help clarify goals for enhancing teaching for all students.

Activity



Still in groups, ask participants to take a look at the results from the last activity. They should pick up on patterns. This activity identifies many patterns that can affect student errors: input, output, and conceptual. These are described on the handout. Allow the groups time to identify patterns and note which ones they find. The participants will not have the opportunity to assess these patterns to see if they are accurate, but have them decide whether they should use a remedial or strengths based approach to re-teach the errors. Or, should they use different approaches for different students? Also, ask participants to identify what role they will play in the re-teaching.

Inform the participants that they will be doing a jigsaw with this information so it may be beneficial to write down their decisions.

Facilitator Note

This activity is meant for looking at a single student's work over time. However, because we are working on several students' work, we modify this activity and look at the patterns for this class. Note this to the participants. Remind them to use this in their classrooms on single students or groups.

Activity Time Limit

10 minutes

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Activity 2, Part 2: Jigsaw

Facilitator Materials

None

Participant Materials

None

Activity Purpose

This activity provides an opportunity to allow participants to see that working with other teachers in analyzing school samples and creating goals widens the selection of improvement possibilities.

Activity

After the small groups have become "experts" on their pattern and designed their new instructional strategies, reassign the participants into new groups of five so that each is new to that group. This enhances participants' views of what is possible given student samples and possible teaching improvements.

Facilitator Note

Jigsaws are potentially confusing activities. Make sure you are clear about how the groups will split up and rearrange themselves prior to this activity.

Activity Time Limit

15 minutes

Lecturette 2: Steps to Improve Data Use

When professionals and the public think about educational data, they tend to think in terms of standardized test scores. And indeed, the chief federal legislation pertaining to "No Child Left Behind" includes extensive mandates to collect, disaggregate, and analyze test results by a variety of student characteristics- race, ethnicity, economic status, English proficiency and disability. Now more than ever, school districts and state education agencies are crunching and reporting the test numbers to determine what students are learning, where they are failing, and how schools need to work differently. (NEA Foundation)

Facilitator Materials

Lecturette 2 PowerPoint

Outcomes Met In Lecturette

- 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.

Complete Lecturette Takes 20 Minutes

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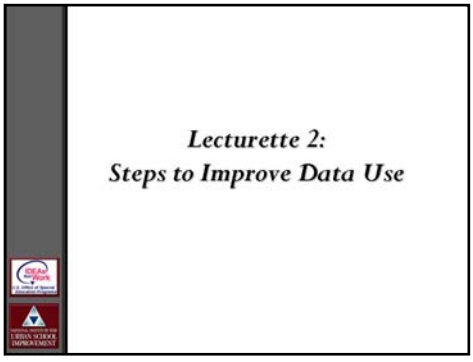
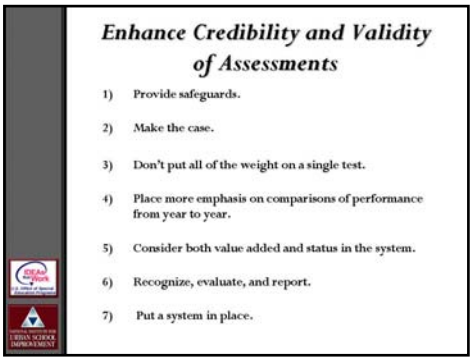


Lecturette 2: Steps to Improve Data Use:
Gathering data from multiple sources is the first step in positively changing instruction based on reliable measures. When the gathering is complete, it is time to put the data to use.

Slide 2

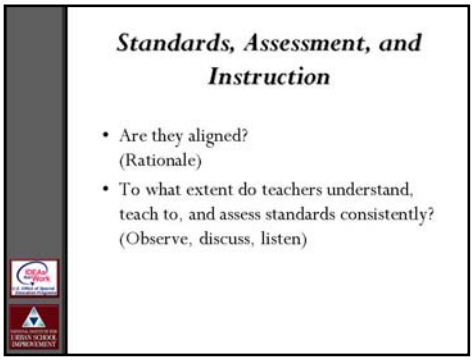


Enhance Credibility and Validity of Assessments:
Data gathered are only as good as the assessments they came from. A good way to improve data use is to improve data sources.

Robert Linn (2000) offers seven suggestions as ways of enhancing validity, credibility, and

positive impact of assessment and accountability systems while minimizing their negative effective.
Provide safeguards against selective exclusion of students from assessment.
Make the case that high-stakes accountability requires new high-quality assessments each year that are equated to those of previous years.
Don't put all of the weight on a single test.
Place more emphasis on comparisons of performance from year to year than from school to school.
Consider both value added and status in the system.
Recognize, evaluate, and report the degree of uncertainty in the reported results.
Put in place a system for evaluating both the intended positive effects and the more likely unintended negative effects of the system.

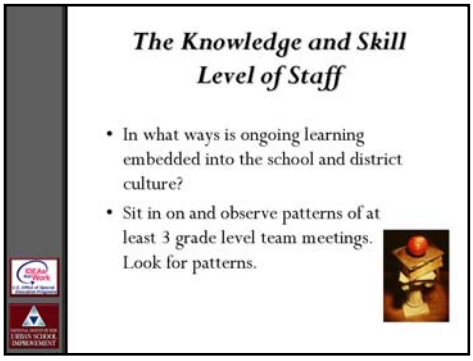
Slide 3



Standards, Assessment, and Instruction:
What is the rationale for aligning standards, assessments and instruction? Without a clear expectation and understanding of why you are gathering data, the results will have little meaning. Make sure your understanding of the data collection is clear and, if other people or systems are involved, that your understanding matches the prevailing rationale.

Facilitator Instructions:
Ask participants how they could make sure their rationale aligns with the state, district or school rationale for standards-based education.

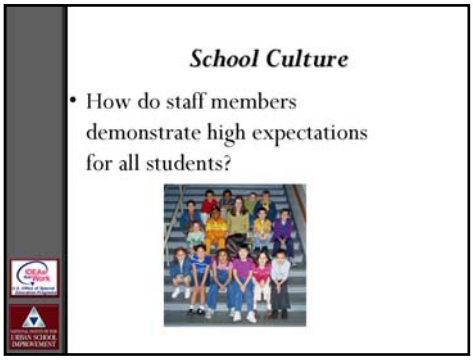
Slide 4



The Knowledge and Skill Level of the Staff:
How do professional staff continue their development in the schools? Does the suggested protocol match the reality?

Facilitator Instructions:
Ask the participants how often they receive professional development on data analysis and assessment. Are they satisfied with this level of professional development?

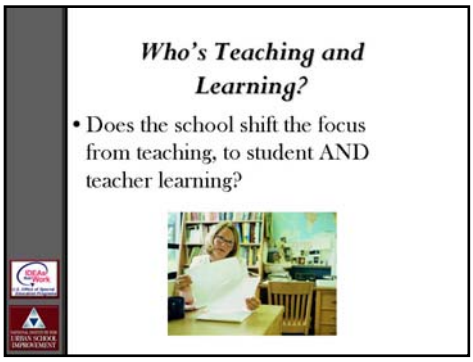
Slide 5



School Culture:
How does the school support the classroom? Is there a culture of academic excellence? Do teachers get support from the administration for demanding high expectations from their students?

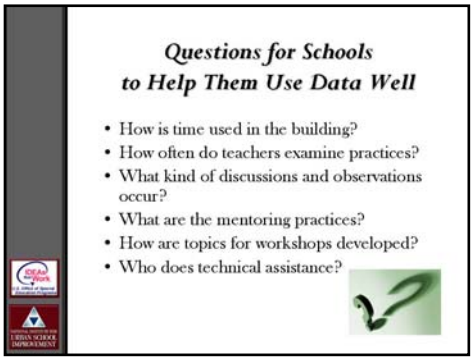
Facilitator Instructions:
How do the participants' schools demonstrate high expectations for all students? Are students rewarded for excellence? Are teachers rewarded?

Slide 6



Who's Teaching and Learning?
Is professional development valued in the school? How do teachers learn to improve their instruction? How are they introduced to new instructional strategies? Is the training supported after the teachers implement the strategies? What if they have questions? Is there ample technical support?
Facilitator Instructions: Brainstorm with participants the options for professional development around new instructional strategies and learning to improve instruction. For example: continuing education, journal articles, etc.

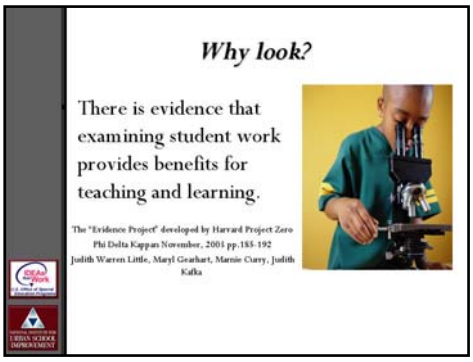
Slide 7



Questions for Schools to Help Them Use Data Well:
How is time used in the building?
How often do teachers examine practices?
What kind of discussions and observations occur?
What are the mentoring practices?
How are topics for workshops developed?
Who does technical assistance?

Facilitator Instructions:
Discuss these questions as a group. What is the correlation between these questions and data use?

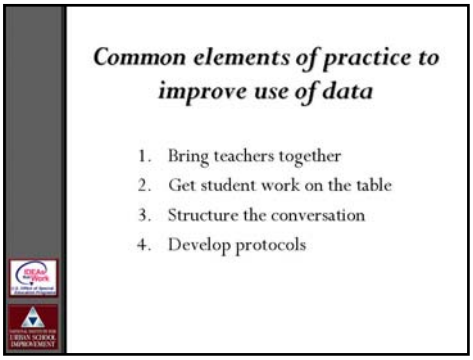
Slide 8



Why look?

Facilitator Instructions:
Conduct a short discussion about what kinds of benefits could occur by examining student work.

Slide 9

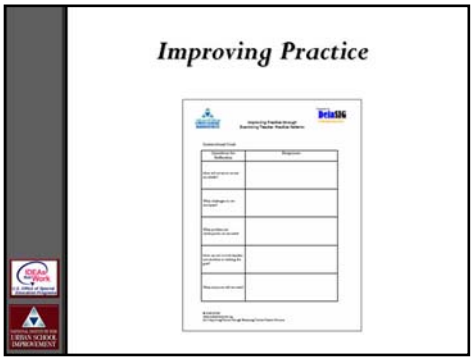


Common Elements of Practice:
When looking to improving the use of data, use these common elements of practice:
1. Bring teachers together to focus on student learnings and teaching practice.
2. Get student work on the table and into the conversation.
3. Structure the conversation.
4. Develop protocols that are explicitly organized for participants to raise questions.

Slide 10

Stay Focused:
When trying to create a new plan for improving data use, stay focused and:
1. Use flexible, creative use of tools for local purposes.
2. Have the ability to exploit subject expertise and examine subject issues.
3. Maintain a balance between comfort and challenge.
4. Facilitate to build a group and deepen conversation.

Slide 11



Improving Practice:
Ask groups to choose an instructional goal and respond to improving practice questions…. (Activity 3)
Facilitator Instructions:
Explain Activity 3 here. Use the timecard PowerPoints [A2.3 timecards.ppt] (Section 24) to help move the activity along.

Activity 3: Gathering Data to Inform Practice - Background

Participants use the goals from Activity 2 to plan for immediate instructional improvement.

Outcomes Met In Activity

- 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.

Activity Sections

- Part 1: Improving Practice
- Part 2: Expanding Instruction

Complete Activity Takes 25 Minutes

Activity 3: Gathering Data to Inform Practice

Activity 3, Part 1: Improving Practice

Facilitator Materials

None

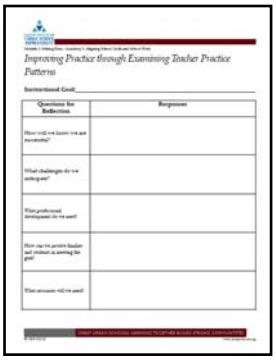
Participant Materials

Improving Practice through Examining Teacher Practice Patterns

Activity Purpose

Participants reflect on their beliefs about the use of student work samples and their role in improving student achievement.

Activity


Improving Practice through Examining Teacher Practice Patterns

Instructional Goal:

Questions for Reflection	Responses
How will we know we are successful?	
What challenges do we anticipate?	
What professional development do we need?	
How can we involve families and students in meeting the goal?	
What resources will we need?	

Improving Practice allows participants to follow through on a goal they identify after analyzing student work samples.

Still in groups, ask participants to evaluate their Student Work Analysis from activity 2. They should choose an instructional goal based on the need for instructional or school improvement and complete the *Improving Practice* handout.

For example: The goal may be to get all students to use pulleys correctly. Participants should answer the following questions:

How will we know we are successful? What kinds of assessments will we use to find out if all students are using pulleys correctly?

What challenges do we anticipate? Are some students developmentally challenged? Will they have trouble using pulleys on their own?

What professional development do we need? If we have students with disabilities in our classes, do we need training in how to work with them on physical activities?

How can we involve families and students in meeting the goal? Are there fun take-home activities that allow families to help with skill building around pulleys?

What resources will we need? Do we have enough pulleys? Do we have the right environment to use the pulleys successfully?

Facilitator Note

None

Activity Time Limit

15 minutes

Activity 3, Part 2: Expanding Instruction

Facilitator Materials

None

Participant Materials

Improving Practice through Examining Teacher Practice Patterns

Activity Purpose

Participants will expand their instructional strategies to include students with disabilities.

Activity

Ask groups to expand their responses to include students with disabilities. They may choose a specific disability such as visual impairment or Down's syndrome, or they can be more general in their answers.

Facilitator Note

None

Activity Time Limit

5 minutes

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.

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

Armstrong, J. & Anthes, K. (2001). How data can help. *The American School Board Journal, 188*(11), 38-41.
A study explored how districts can use data more effectively. Data were obtained from six schools in five different states that had reputations as particularly effective users of data. It emerged that districts that make good use of data share several characteristics. These common factors are strong leadership; a supportive district wide culture for using data for continuous improvement; a strong service orientation toward principals and teachers; partnerships with universities, businesses, and nonprofit organizations; a mechanism for supporting and training personnel to use data; close accounting of every student's performance on academic standards; a focused flexibility in how time is used; and a well-defined, data-driven school improvement process.

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, 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.

Marzano, R. J. (2003). Using data: Two wrongs and a right. *Educational Leadership, 60*(5), 56-60.
Schools and districts often make two mistakes in their efforts to be data-driven. The first mistake occurs because schools use measures of student learning that are not sensitive to the actual learning occurring in classrooms. The second mistake comes about when a school or district has no system or plan for interpreting and using the data. Education research has revealed 11 student, teacher,

and school factors that affect student learning. These are a guaranteed and viable curriculum, challenging goals and effective feedback, parent and community involvement, a safe and orderly environment, staff collegiality and professionalism, teachers' instructional strategies, classroom management, classroom curriculum design, home atmosphere, learned intelligence and background knowledge, and student motivation. A survey instrument that can be used to identify specific elements for each of the 11 factors that directly affect student achievement is discussed.

Parsons, B. A. (2003). A tale of two schools' data. *Educational Leadership, 60*(5), 66-68.
The different approaches to data collection and analysis that are taken at two school districts are discussed. In the first district, an examination of previous scores is conducted, a goal is set, and individual teachers are left to figure out how to reach this objective. In the second district, a diagnosis is made, a goal is set, a planning system based on program planning and action as well as evaluative inquiry is created, and an Action Team and an Evaluative Inquiry Team is developed for each subject area. The first district reports progress on overall math achievement on a yearly basis, but teachers do not know how to link this information to the variables they can control. However, the second district reports on research-based changes to improve student learning, how levels of implementation of the new methods are linked to progress in student learning, and how teachers are sharpening their instruction.

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 tests and analyzing data from standardized achievement tests.

Rudner, L. M. & Boston, C. (2003). Data warehousing: Beyond disaggregation. *Educational Leadership, 60*(5), 62-65.
Schools should consider data warehousing to ensure their data collection and reports comply with the new No Child Left Behind legislation and to provide a more precise tool for improving education. Data warehousing allows educators to use collected data for traditional purposes, to transform mountains of data into useful information, and to help policymakers identify and plan responses to key trends. When well-organized and easily accessible, a data warehouse can provide a wide range of important analyses that use cross-sectional and longitudinal data. Suggestions for building a functional education data warehouse are provided, and the benefits of data warehousing are discussed.

Thomas, R. S. (2003). Conversations that unlock knowledge in our schools. *Principal Leadership, 3*(8), 40-44.

Advice for school principals on how to develop the ability of faculty to discuss significant student learning issues is provided. This advice relates to the need to use several key categories of questions in faculty conversations if a school is to move from data to information to knowledge. These categories relate to understanding data, analyzing desegregated data, transforming data into information, benchmarking school performance against other schools, and using information to identify root causes of current achievement levels.

Thornburn, M. & Collins, D. (2003). Integrated curriculum models and their effects on teachers' pedagogy practices. *European Physical Education Reviews, 9*(2), 185-209.

There is increasing interest in how philosophy or overarching aims are articulated through the various planning stages to eventual teaching methodology Accordingly, this paper analyses the interrelationship between teaching, learning and assessment through tracking the decision-making chain from teachers' intentions to the assessment of student outcomes. The context employs an integrated curriculum model, which attempts to link improving performance within activities with the development of an underpinning knowledge about performance-related concepts. The paper reports findings from 40 semi-structured and small group interviews with PE teachers and students in a purposeful sample of secondary schools in Scotland, all following a centrally defined integrated curriculum. Results highlight profound disparities in the pedagogy practices teachers adopt in attempting to translate a dictated 'practical experiential' rationale into performance-led practice. Consequently, this paper provides discussion points for the further review of policy and related methodologies.

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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.