DATA USE STANDARDS:
AN UPDATE ON THE NATIONAL CONVERSATION AND RESOURCES

Data Summit
April 8, 2016
Christine Sorensen Irvine
SESSION OVERVIEW

I. Overview of Work Group
II. Resources
III. Feedback
IV. Demonstration of competency approach

Resources available at
http://slds.grads360.org/#program/data-use-standards
Overview of Data Use Standards Work Group (DUSWG)
The Need

Understanding the importance of data literacy and skills
- Recent publications about teacher/administrator data use
- Acknowledgement of the importance of evidence-based decision-making
- Recurring funding opportunities for building infrastructure to support evidence-based decision-making

Advent of state created resources
- Data use courses
- Certifications for data use
- Standards and literacies around data
- State data use PD matrix

Addressing Critical Knowledge and Data Skills
- No standards to serve as foundation
- Pre- and in-service alignment
- Service to LEA and Postsecondary needs
Goal: To increase the effective use of data by teachers and administrators to support student learning and success.
Objectives

• To provide a foundation for states’ development of data literacy and data use trainings
• To inform and improve the articulation between pre- and in-service data training for teachers and administrators
DUSWG Timeline

- **Beginning of Idea** (August 2013)
- **Recruit and Plan** (November 2013)
- **Release Phase I Resource** (July 2014)
- **Release Phase II Resource** (July 2015)

- Discuss with SST (Fall 2013)
- Launch of Phase I (January 2014)
- Launch Phase II (February 2015)


**WORK GROUP MEMBERS AND STRUCTURE**

**Phase I**
- 27 members representing 13 states
- Entities represented: SEA, postsecondary institutions, P-20W, regional service agencies, and one LEA
- Three subgroups: Knowledge, Skills, and Professional Behaviors

**Phase II**
- 27 members representing 14 states and Guam
- Same types of entities represented as in Phase I with increase in district representation
- Four subgroups: Knowledge, Skills, Professional Behaviors, and Case Studies
- Creation of Advisory Council
ADVISORY BOARD MEMBERS

• Karen Levesque, RTI International
• Ellen Mandinach, WestEd
• Michael McNichols, NORC at the University of Chicago
• Jeff Wayman, Wayman Services
• Lisa Wills, NASA Office of Education
RESOURCES
WORK GROUP APPROACH

Literature Review and Alignment

• Assess gaps
• Review current attempts
• Synthesize and leverage what is available

Full Work Group and Subgroups

• In-person meeting to launch each phase
• Monthly full group webinars
• Monthly subgroup calls/webinars
• Online Community of Practice
ARTICULATING “DATA USE COMPETENCIES”

Data Use Competencies

Knowledge

Skills

Professional Behaviors
External Vetting
• Focused on key stakeholders
• Gather feedback and uses

Engage Experts in the field
• Formed advisory council
• Keep aware of progress and serves as resource
**Resource Information**

**Intended Audience**

- Those who create and deliver at the state, regional, and local levels (1) pre-service training to educators and (2) in-service training to educators
- Educators (classroom-, school-, and district-level) are also an intended audience

**Main Areas**

- Knowledge
- Skills
- Professional Behaviors
- Glossary of Key Terms
- Standards in Practice
PHASE II EXPANSION OF INITIAL RESOURCE


2. Expanded Standards Resource
   A. Expanded gray boxes (now called Clarifying Information) to every standard, all three sections
   B. Created 1-2 scenarios for each section of resource that demonstrates the use of individual-level data and aggregate data

3. Created Standards in Practice resource that demonstrates standards across all three sections of the resource being used in members’ organizations

4. Defined criteria for and sent out a Call to the Field to submit real-world case studies of how they have used the standards
**Resource Structure**

Familiarity with the nature of data and concepts underlying data use; includes the learning and theory that education communities need as a foundation for using data to improve educational outcomes.

See definitions for **Key Terms** starting on page 28.

**Subsection**

**K.1 Fundamental**

The basic information needed to know how to use the data.

**Standard**

**K.1.A Question Formation**

Knows which questions can be answered with data and how to identify the nature and extent of the data needed to answer questions.

**Clarifying Information**

Question formation is the first step of data use, but it also needs to have the end in mind. For example, finish the statement “I want to know…” From there, educators can build a better question that helps identify the data sources, **Assessments, Variables**, student subgroups, programs or interventions, and/or time periods needed to answer it. The key is that the question must cover what the educator wants to know.
RESOURCE STRUCTURE

K.1 FUNDAMENTAL
The basic information needed to know how to use the data

K.1.A Question Formation
Knows which questions can be answered with data and how to identify the nature and extent of the data needed to answer questions.

Question formation is the first step of data use, but it also needs to have the end in mind. For example, finish the statement “I want to know…” From there, educators can build a better question that helps identify the data sources, ASSESSMENTS, VARIABLES, programs or interventions, and/or time periods needed to answer it. The key is that the question must cover what the educator wants to know.

K.1.B Data Quality
Knows that HIGH-QUALITY DATA are based on VALID data that are RELIABLE, accurate, TIMELY, and complete.

To be valid and meaningful to educators, data must be many things, including accurate and reliable. For example, if an educator uses a rubric to grade an assignment, the rubric must accurately measure the skills being assessed (validity). If the same rubric is used by another educator, then both educators must interpret the rubric the same way so that students receive comparable grades regardless of who scored their assignment (reliability).

See also B.1.A Data Quality
KNOWLEDGE SCENARIO 1: TRAINING SCHOOL LEADERS TO SET GOALS WITH DATA

Note: Parentheses indicate the Knowledge standard that is illustrated.

You are a professional development trainer who is leading a training session for a school’s leadership team to build their data knowledge around understanding and refining their school improvement goals. These goals focus on improved results on the school climate survey and increased graduation rates (Types of Measures).

At the beginning of the day, you inform leadership team members about the laws and rules that direct data use (Data Privacy), discuss what is appropriate use of data for the day’s activities (Data Ethics), and have them sign a statement agreeing to behave appropriately (Data Privacy).

You focus the team members on the goals they have identified, explaining that the goals are good but that data can best be used to answer specific and measurable questions. You lead them in an activity where they break down the goals into specific questions (Question Formation). A goal related to high school graduation was refined into two questions. The first focused on the full student population: “For the past four years, what percentage of 12th graders graduated in four years?” The second focused on a targeted subgroup of students: “How does the graduation rate of English Language Learners compare to students who were non-English Language Learners for the past four years?” A goal to improve the school climate was refined to focus on differences between the general student population and those students who were chronically absent, or absent 10 percent or more of school days. The group agreed to the questions, “What are the trends in school climate for the entire school population over the past four years?” and “How does attendance correlate with school climate?”

You ask the participants what data they have that tells them whether they met these goals (Data Sources). Leadership team members explain that they know which students graduate in four years because they already have a report in their student information system that is easy to understand (Data Format). The school climate survey is distributed to students in the spring of every year (Data Collection). Team members can access the results using multiple spreadsheets in Microsoft Excel (Data Analysis Tools).
# Key Terms Snapshot

## Key Terms

As they are related to data or data use.

KEY TERMS are designated throughout the document.

<table>
<thead>
<tr>
<th><strong>ACCOMMODATION</strong></th>
<th>An alteration of environment, format, or equipment that allows an individual to gain access to content and/or complete assigned tasks.</th>
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</thead>
<tbody>
<tr>
<td><strong>ANALYSIS</strong></td>
<td>The process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data.</td>
</tr>
<tr>
<td><strong>ASSESSMENT</strong></td>
<td>The systematic collection, review, and use of information about educational programs undertaken for the purpose of evaluation or improvement.</td>
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<tr>
<td><strong>BASELINE</strong></td>
<td>The level of performance at the start of data collection that can be used to measure change in indicators in the future.</td>
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<tr>
<td><strong>BIAS</strong></td>
<td>Anything that produces systematic but unexpected variation resulting in inaccurate results.</td>
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<tr>
<td><strong>CAUSAL</strong></td>
<td>A type of data analysis used to try to determine a cause-and-effect relationship.</td>
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</tbody>
</table>
Discussion of Standards

SLDS Data Use Standards
Knowledge, Skills, and Professional Behaviors for Effective Data Use
NEW IN PHASE II


2. Expanded Standards Resource
   A. Expanded gray boxes (now called *Clarifying Information*) to every standard, all three sections
   B. Created 1-2 scenarios for each section of resource that demonstrates the use of individual-level data and aggregate data

3. Created *Standards in Practice* resource that demonstrates standards across all three sections of the resource being used in members’ organizations

4. Defined criteria for and sent out a *Call to the Field* to submit real-world case studies of how they have used the standards
NORTH DAKOTA

A+ Inquiry Framework

Attendance Dashboard Data Guide

This page provides a quick reference for the Attendance Dashboard. The report provides an overview of attendance data, including period attendance, and focusing on reporting about chronic absences.

The report is accessible in the Dashboard folder in the data warehouse.

Purpose

What are some questions the report helps answer?
- What are the attendance rate and chronic absence rate of students?
- What percentage of students have a satisfactory attendance rate or perfect attendance?
- Which students are chronically absent?
- What are the chronic absence rates by grade level and demographic categories, such as gender, SWD (students with disabilities), ethnicity, ED (economically disadvantaged), and LEP (limited English proficiency)?
- What are the perfect attendance, satisfactory attendance, and chronic absence rate trend since the 2009-2010 school year?
- For middle schools and high schools, what are the chronic absence rates for each period of school?

Focus

Who is the intended audience?
Administrators, Teachers

What data are reported on the reports?
Attendance data are reported in a variety of ways including perfect attendance, satisfactory attendance, and chronic absences.

How are the data reported? Each section of the report has a title and labels for understanding that section of data.

Warning

What do many educators misunderstand?
The difference between chronic absence and truancy is more than a matter of semantics; it's important to understand the terms. Truancy refers only to unexcused absences. In Tennessee, a student is considered truant at 10 days of unexcused absences. It signals the need for potential intervention under state compulsory education laws. Chronic absence indicates missing 10% or more of school for any reason – excused, unexcused, suspension, etc. It is an indication that a student is academically at risk due to missing too much school. When chronic absence is too high, it can affect all students, as teachers spend more time reviewing concept.

Currently, the state does not have policies regarding chronic absence. Within MNPS, we urge schools to focus on chronic absence because it spotlights attendance problems masked by the attendance rate. In addition, research indicates there is a direct correlation between chronic absence and low academic achievement (Jerald, 2007).
Manchester, New Hampshire

Phase 1 – Predict
Surfacing experiences, possibilities, and expectations
With what assumptions are we entering?
What are some predictions we are making?
What are some questions we are asking?

Phase 2- Observe
Analyze the Data
What important points seem to “pop out”?
What seems to be surprising or unexpected?
What are some things we have not yet explored?

Phase 3- Infer/Question
Generate possible explanations
What inferences and explanations might we draw?
What questions are we asking?
What tentative conclusions might we draw?

Phase 4 - Implications for Practice - Plan next steps
What issues have been raised about school-wide practices/classroom practices?
What is the first step to increase student success in this area?

Adapted from Laura Lipton and Bruce Wellman
@Nancy Love, TERC
Call To The Field

Examples of Data Use Standards in Action

Deadline: February 1, 2016

For submission instructions and additional information, visit https://slds.grads360.org/#program/data-use-standards
Examples of how education organizations have created and implemented data use in-service professional development or training and/or pre-service curricula aligned with the data use standards.

1. Pre-service training or curricula for teacher and/or administrator candidates
2. In-service training or professional development for practicing teachers and/or administrators
3. Collaboration and alignment among postsecondary institutions or a postsecondary coordinating organization and the state education agency or local education agencies
4. Other uses of the Data Use Standards to support educators’ effective data use
DISCUSSION OF CASE STUDIES

SLDS Data Use Standards
Standards in Practice
Next Steps

Use the resources

- Knowledge, Skills, and Professional Behaviors for Effective Data Use
- Standards in Practice
- http://slds.grads360.org/#program/data-use-standards

Phase III:

Differentiating standards by role (classroom, school, district levels)

Curriculum Development (ND)

Possible development of competency-based online course/modules
A Model for What is Possible

Distance Course Design and Consulting Service (DCDC)

Demonstration of competency approach

https://dcdc.coe.hawaii.edu/ltec/112/welcome/
LTEC 112

Technologies for Academic Success
LTEC 112 - Technologies for Academic Success

Prepare students to use technologies in academic settings

3 credits, evolution of 1-credit “Skills for Distance Students”

DCDC / LTEC collaboration

Provide skills to students, test Competency-Based Education ideas
What is CBE?

PRINCIPLES

1. Measure of learning outcomes rather than seat time

2. Students advance upon mastery

3. Competencies are explicit, measurable, transferable

4. Rigorous assessment methods

5. Personalized learning approaches
**FACTORS IMPACTING THE FUTURE OF HIGHER EDUCATION**

Academic leaders think that **cost** and **gainful employment** issues will be the primary factors driving the future of higher education.

<table>
<thead>
<tr>
<th>MOST IMPORTANT</th>
<th>COST/STUDENT INDEBTEDNESS</th>
<th>WORKFORCE DEVELOPMENT/GAINFUL EMPLOYMENT</th>
<th>ASSESSMENT OF LEARNING OUTCOMES</th>
<th>COMPETENCY-BASED EDUCATION</th>
<th>IMPROVED STUDENT RETENTION</th>
<th>SELF-DIRECTED LEARNING</th>
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<tr>
<td>22.9%</td>
<td>18.5%</td>
<td>15.9%</td>
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OLC: 2014 Survey of Online Learning
Grade Level: Tracking Online Education in the United States, 2014
LTEC 112

Technologies for Academic Success
**Theme 1: Getting Your Tech Together**

What technology and tools will help you find success at UH? Topics in this theme will help prepare you for face-to-face and online classes.

<table>
<thead>
<tr>
<th>Topics</th>
<th>Core</th>
<th>Elective</th>
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</thead>
<tbody>
<tr>
<td>Email</td>
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<td>Laulima</td>
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<td>✔</td>
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<tr>
<td>Troubleshooting, Safety &amp; Security</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Web Conferencing</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Computer &amp; File Management</td>
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</table>

**Legend**

- **Assessment Locked**
- **Never Submitted**
- **Grade Pending**
- **Completed**
- **Fix It**

**Colors**

- ![Start Here](color-start-here). (or no point value)
- ![Core](color-core)
- ![Elective](color-elective)
- ![Culminating Project](color-culminating-project)
Rate This Lesson

Your Rating: ★★★★★

Average Rating (13): ★★★★★

Feedback

Share any feedback you have!

by [User] on January 21, 2016

I love that I'm learning more and more new things!

by [User] on September 26, 2015

The introduction and lesson given was simple to follow and learn

by [User] on September 18, 2015

Thanks for the information on the free McAfee Anti-virus software.

by [User] on July 15, 2015

Provide feedback on what questions you got wrong on the quiz
Cropping

Cropping refers to removing part of the image that is not needed, leaving just a rectangular portion of the original. Cropping reduces the file size by removing unwanted pixels, and is a feature in all image editors.

Example

This version of the image has been cropped, resulting in only 2201×1553 pixels, which reduced the file size to 2.2MP (almost 40% smaller).

"Easter Eggs" by Paul McKimmy used with permission — cropped: 2201×1553 pixels and 2.2MB
Question 1

**BBC is a software tool for**

- A. managing a course
- B. web conferencing
- C. blogging and social media

Question 2

**The BBC Audio Setup Wizard should be run**

- A. at the beginning of every BBC session
- B. once per week
- C. only when a new computer is in use

Question 3

**This is the onscreen image in the LTEC 112 BBC test room is:**

- Image 1
### Theme 1: Getting Your Tech Together

<table>
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<td><img src="#" alt="Elective" /></td>
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<td>To Be Graded</td>
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<table>
<thead>
<tr>
<th>Core Overall Class Progress</th>
<th>Student Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 of 60 Core</td>
<td>26 of 120 Elective</td>
</tr>
</tbody>
</table>
How would you use the current resources?

- To self-assess
- To create data literacy curriculum/training
- To improve articulations between pre- and in-service data curricula
- Others

What is the level of interest in the competency online module approach?
AN EXERCISE

Review the standards and discuss for your assigned role, is this standard

1 – not essential
2 – perhaps essential
3 – definitely essential
CONTACTS

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