National Forum on Education Statistics

Forum Curriculum for Improving Education Data

A Resource for Local Education Agencies

National Forum on Education Statistics

Forum Curriculum for Improving Education Data

A Resource for Local Education Agencies

National Cooperative Education Statistics System

The National Center for Education Statistics (NCES) established the National Cooperative Education Statistics System (Cooperative System) to assist in producing and maintaining comparable and uniform information and data on early childhood education and on elementary and secondary education. These data are intended to be useful for policymaking at the federal, state, and local levels.

The National Forum on Education Statistics (the Forum) is an entity of the Cooperative System, and among its other activities, proposes principles of good practice to assist state and local education agencies in meeting this purpose. The Cooperative System and the Forum are supported in these endeavors by resources from NCES.

Publications of the Forum do not undergo the same formal review required for products of NCES. The information and opinions published here are those of the National Forum on Education Statistics and do not necessarily represent the policy or views of the U.S. Department of Education or the National Center for Education Statistics.

July 2007

This publication and other publications of the National Forum on Education Statistics may be found at the websites listed below.

The NCES World Wide Web Home Page is http://nces.ed.gov
The NCES World Wide Web Electronic Catalog is http://nces.ed.gov/pubsearch
The Forum World Wide Web Home Page is http://nces.ed.gov/forum

Suggested Citation

National Forum on Education Statistics (2007). *Forum Curriculum for Improving Education Data: A Resource for Local Education Agencies* (NFES 2007-808). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

For ordering information on this report, write:
U.S. Department of Education
ED Pubs
P.O. Box 1398
Jessup, MD 20794–1398
Or call toll free at 1–877–4ED–PUBS or order online at http://www.edpubs.org.

Technical Contact:
Ghedam Bairu
(202) 502–7304
ghedam.bairu@ed.gov

The Data Quality Curriculum Task Force

A volunteer task force of the National Forum on Education Statistics produced this document. It was developed through the National Cooperative Education Statistics System and funded by the National Center for Education Statistics (NCES) of the U.S. Department of Education.

Task Force Members

Co-Chairs

Leland Tack
Iowa Department of Education
Des Moines, Iowa

Roy Herrold
Central Susquehanna Intermediate Unit
Lewisburg, Pennsylvania

Members

Bruce Dacey
Delaware Department of Education
Dover, Delaware

Ronald Danforth
New York State Education Department
Albany, New York

Mary Gervase
Blaine County School District
Hailey, Idaho

Kenneth Gu
Rhode Island Department of Education
Providence, Rhode Island

Beth Juillerat
Ohio Department of Education
Columbus, Ohio

John Kennedy
Maine Department of Education
Augusta, Maine

John Metcalfe
Fremont County School District #1
Lander, Wyoming

Judy Newman
Sumter County School District Two
Sumter, South Carolina

Susan VanGorden
Lakota Local School District
Liberty Township, Ohio

Ross Santy
Planning, Evaluation, and Policy Development
U.S. Department of Education
Washington, District of Columbia

LeVette Williams
Georgia Department of Education
Atlanta, Georgia

Project Officer

Ghedam Bairu
National Center for Education Statistics
U.S. Department of Education
Washington, District of Columbia

Consultants

Michael Derman and Kathleen Hummel
Central Susquehanna Intermediate Unit
Lewisburg, Pennsylvania

Task force members review all products iteratively throughout the development process. Documents prepared, reviewed, and approved by task force members then undergo a formal public review that is designed to reflect the nature of the product. Public review is carried out by pilot groups consisting of representatives of the product's intended participants, in review sessions at relevant regional or national conferences, or through technical reviews by acknowledged experts in the field. In addition, all draft documents are posted on the Forum website prior to publication so that other interested individuals and organizations can provide comments. After task force members oversee the integration of public review comments and review the document a final time, all publications are subject to examination by members of the Forum standing committee that sponsors the task force. Finally, the entire Forum (approximately 120 members) must review and vote to formally approve a document prior to final publication.

Acknowledgements

The Forum Curriculum for Improving Education Data: A Resource for Local Education Agencies builds on the *Forum Guide to Building a Culture of Data Quality: A School & District Resource*, published by the National Center for Education Statistics in November 2004. The Data Quality Curriculum Task Force of the National Forum on Education Statistics acknowledges its debt to that publication for the organizational structure of this curriculum. The Task Force also thanks the members of the Forum who contributed suggestions and resource materials that strengthened the curriculum's lessons.

The Data Quality Curriculum Task Force thanks the following people and organizations for arranging pilot tests for the lesson plans and materials, which provided valuable suggestions for improving the curriculum:

Steve Smith, Director of Technology
Waterville High School
Waterville, Maine

Earl Watkins, Superintendent
Jackson Public Schools
Jackson, Mississippi

Stephen Metcalf, Superintendent
Orange-Windsor Supervisory Union
South Royalton, Vermont

Beth Manning, Student Accounting Manager
Putnam City Public Schools
Oklahoma City, Oklahoma

In addition, the Task Force thanks Sonya Edwards (California Department of Education), Lee Hoffman, Gail Mulligan, and Jeffrey Owings (National Center for Education Statistics), and Erin Perry (Kansas State Department of Education) for reviews that greatly improved the consistency of this document; LeRoy Rooker and Ellen Campbell of the U.S. Department of Education's Family Policy Compliance Office for valuable technical information and corrections regarding the Family Educational Rights and Privacy Act and the Health Information Portability and Accountability Act; Barbara S. Lynch and Joyce Stern (Synergy Enterprises, Inc.) for overall editing; and Virginia Robles-Villalba (Synergy Enterprises, Inc.) for formatting and designing this publication.

Finally, the Data Quality Curriculum Task Force thanks Victoria Bernhardt (Education for the Future) and the American Association of Collegiate Registrars and Admissions Officers (AACRAO) for giving the Task Force permission to reprint or adapt their copyrighted materials.

Contents

National Cooperative Education Statistics System ii
The Data Quality Curriculum Task Force iii
Acknowledgments v
Contents vii

Introduction 1

Overview 1
Structure 1
How to Use This Document 2
Documents Instructors Should Obtain 3

Part I: Foundational Data Improvement Lessons 5

Lesson: What is a Culture of Quality Data? 8
Lesson: Assessing Your Local Education Agency's Data Quality 14
Lesson: Classifying Education Data 25
Lesson: Security and Confidentiality 36

Part II: Data Steward/Coordinator Lessons 47

Lesson: Data Steward/Coordinator Responsibilities 50
Lesson: Data Flow and Data Cycles 55
Lesson: Data Entry Issues 60
Lesson: Creating and Using a Data Dictionary 67
Lesson: Developing a Data Calendar 71
Lesson: Types of Data Errors 76
Lesson: Validating and Auditing Data 81
Lesson: Communication 93

Appendix A: Glossary 105
Appendix B: Downloading Lesson Plan and Lesson Resource Files 111
Appendix C: Downloading Supplementary Resources 115

Introduction

Overview

This publication is a curriculum designed to support the training by qualified instructors of K-12 school and district staff about the issues pertaining to the production of high-quality education data. It provides lesson plans, instructional handouts, and resource materials. The goal of the curriculum is to present the concepts necessary to help schools develop a culture for improving the quality of their data and to provide opportunities for participants in training sessions to practice some of the skills required for such an effort. Many of the instructional activities and resource materials are designed to enable participants to take an informed lead in the discussions and planning needed to encourage such a culture in their districts and schools.

This curriculum is based on the assumption that instructors using these materials are familiar with many, if not all, of the topics covered. The lesson plans and instructional materials are designed to assist a knowledgeable instructor in delivering effective professional development to other local education agency (LEA) staff by providing a coherent framework and specific activities for teaching. They do not constitute a textbook with which an uninformed individual can teach himself or herself the content.

Although each lesson plan describes activities in a specific order and includes handouts and resource materials referred to in the lesson, neither the organization of the lessons nor the inclusion of particular materials in each lesson should restrict instructors.

Digital versions of this document and the lesson plans are available on the accompanying CD or can be downloaded from http://nces.ed.gov/forum/data_quality_curr.asp and can be modified to best meet user needs.

Structure

Each lesson plan provides

- a general description of the lesson;
- a list of the lesson objectives;
- the lesson's essential learnings;
- some introductory materials;
- suggested activities to meet the lesson's objectives; and
- (usually) a summary activity or description.

All handouts referred to as Lesson Resources in a given lesson are included as part of this document, though some may be found in other lessons. Items listed as Supplementary Resources can be found on the enclosed CD or downloaded according to the directions in Appendix C. Individual lesson plans might take from 1 to 2 hours to deliver and can be combined into half-day or full-day workshops as the needs of the participants dictate.

Part I: Foundational Data Improvement Lessons contain materials designed to introduce the important concepts for creating a culture of quality data to all LEA staff members who affect the production of quality data, including

- board members;
- superintendents;
- principals;
- data coordinators/stewards;

- teachers;
- technology support staff; and
- office staff.

These Foundational Data Improvement Lessons could be given in a single workshop of fewer than 2 days or as a sequence of half-day workshops.

Part II: Data Steward/Coordinator Lessons provide materials for those staff members responsible for overseeing the quality of an LEA's data. In some LEAs, one person may be responsible for all dimensions of data work (documentation, report design, coordination of reporting, security and confidentiality practices, etc.). In other LEAs, those responsibilities may be divided among several central office and building staff. This training might be delivered to staff from multiple LEAs assigned to take on their districts' Data Steward/Coordinator responsibilities or to several Data Steward/Coor¬dinator personnel assigned to particular buildings in a given district. Participants in these lessons should have completed the Foundational Data Improvement Lessons prior to attending these workshops. The Data Steward/Coordinator training should take 4 or 5 full days.

Appendix A: Glossary lists terms used in this curriculum and others commonly found in other documents pertaining to school data.

Appendix B: Downloading Lesson Plans and Lesson Resource Files lists Web links to modifiable files of the lesson plans and instructional materials used in this curriculum.

Appendix C: Downloading Supplementary Resources provides lists of print materials and websites that can be used to supplement lessons in this curriculum and URLs that link to those resources, organized by lesson.

How to Use This Document

The order in which lesson plans are presented in this publication provides a logical sequence of concepts, and each lesson plan contains a recommended list of handouts, activities, and reference materials for that lesson. In general, instructors should feel free to present the concepts and use the materials in any manner and any order they feel is appropriate to their teaching style and the needs of participants. The goal in designing these materials was to allow instructors the flexibility to make effective choices in providing this training.

However, it is highly recommended that the lesson titled ***What is a Culture of Quality Data?*** be considered a prerequisite for any other lesson in this curriculum. Knowledge of the concepts and terminology introduced and discussed in this lesson will make the other lessons easier for participants to understand.

Near the beginning of each lesson plan is a section suggesting tasks workshop instructors might undertake to prepare for lessons and a listing of important points to cover in the course of instruction. These, too, are subject to the instructor's judgment, based on previous training or information the participants may already know, the instructor's level of expertise, etc.

This curriculum is based on and refers to the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***. Therefore, before delivering any of this training, instructors should familiarize themselves thoroughly with the ***Guide***. Instructors delivering the lesson plans for Data Stewards/Coordinators should also have experience working with data management and data systems, as the discussions and questions that will arise in the course of the lessons are likely to be more technical and specific.

Documents Instructors Should Obtain

The following documents are recommended as useful supplementary materials to have on hand for the Foundational Data Improvement Lessons. Which of them the instructor obtains will depend both on the availability of state- and district-specific documents and on the nature of the participants being trained (for example, whether they are all from one district or represent staff from multiple districts).

District Documents

- District data calendar/timelines
- Student attendance reports
- District data standards
- District data dictionary
- Data procedures already in place in district
  - Confidentiality guidelines
  - Data correction procedures
  - Data entry standards
- Data-responsibility information
  - Quality data role tip sheets from the ***Forum Guide to Creating a Culture of Quality Data: A School & District Resource***
  - Job descriptions for data coordinator and/or other data-related positions
- List of appropriate website resources including
  - ***Forum Guide to Building a Culture of Quality Data***
  - Online data standards or dictionaries
  - Online versions of data-related procedures and forms
  - NCES Online handbooks
- District or general data audit reports and forms

State Documents

- State data calendar/timeline
- State data standards or data dictionary
- State data audit reports and forms

Part I:

Foundational Data Improvement Lessons

Part I:
Foundational Data Improvement Lessons

Purpose

To introduce the key concepts in producing quality education data to all the members of a school and district staff who have some responsibility for creating or applying such data, and to begin conversations among staff that will build a culture of quality data within their respective institutions.

Participants

- Board members
- Superintendents
- Principals
- Data Stewards/Coordinators
- Teachers
- Technology Support Staff
- Office staff

These lessons can be delivered to a group of individuals who serve in any of the above-named positions in a single Local Education Agency (LEA), individuals from several LEAs who have similar positions, or teams of individuals serving multiple roles from several LEAs. Instructors are encouraged to include several LEA staff members in lessons in order to encourage the sort of cross-role communication within an LEA that a culture of quality data requires.

Number of Lessons

- What is a Culture of Quality Data?
- Assessing Your Local Education Agency's Data Quality
- Classifying Education Data
- Security and Confidentiality

Recommended Delivery Time per Lesson

1-3 hours

Lesson: What is a Culture of Quality Data?

Participants:

All Key Players*

Description

This lesson is one of four workshops that serve as an introduction to building a culture of quality education data. All participants should complete all four workshops to derive the maximum benefit from the lessons. In this workshop, participants will assess their current knowledge of quality data issues. They will respond to a scenario concerning quality data in an educational situation. Participants will use a concept map to demonstrate their understanding of the importance of quality data, the components of a culture of quality data, and the factors affecting data quality.

Objectives

- Define a culture of quality data.
- Determine the importance of quality data.
- Identify the components of a culture of quality data.

Instructor Preparation

- Download a PDF version of ***Forum Guide to Building a Culture of Quality Data: A School & District Resource*** from http://nces.ed.gov/pubs2005/2005801.pdf. Print copies of the ***Forum Guide*** can be ordered on line at http://www.edpubs.org/webstore/Content/itemDetails.asp?strItem=ERN3794P&ed=NFES+2005%2D801&pubdt=110104.
- Read the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource.***
- Make a single copy of each of the following learning resources (which can be found on the pages following the lesson plan) for each participant:
  - Before…After…Next (BAN) Chart
  - Quality Data Culture Education Scenario
  - Pages 3-5 of ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***
  - Quality Data Culture Concept Map

Essential Learnings

- Each key player has an essential role in establishing and maintaining a culture of quality education data. Each needs to understand the professional responsibilities of the others and how they should collaborate and communicate to make the system that produces data function well.
- Each key player is a steward of the data, responsible for identifying data errors and suggesting ways in which errors can be corrected and avoided in the future.
- The Data Steward/Coordinator role is one that many Local Education Agencies (LEAs) have not assigned to a particular person, but the position is essential for consistently producing quality data. The responsibilities of that role may be divided among several people, but all responsibilities should be covered.
- Accuracy, security, utility, and timeliness are the components of quality data. Those features will form a framework for understanding the responsibilities of the key players in establishing a culture of quality data.

* Key players include board members, superintendents, principals, data stewards/coordinators, teachers, technology support staff, and office staff.

Introduction

Item

- Discuss the growing importance of data in school operations and the history of factors that have contributed to this development, such as:
  - rising demands for accountability in education and society as a whole;
  - the emergence of data-driven decisionmaking as an educational concept;
  - the need for LEAs to be effective and efficient in providing education to an increasingly diverse student population; and
  - the tracking requirements of the No Child Left Behind Act.
- As a means of conveying the objectives of the lesson, have participants complete the *Before* column of the **Before… After…Next (BAN) Chart.** The *After* and *Next* columns will be completed during the Summary/Wrap-Up exercise of the lesson as a way to reflect on the lesson and to identify next steps.
- Encourage participants to discuss their level of understanding and ask questions for clarification.

Lesson Resources for the Introduction*

- Before…After…Next (BAN) Chart

Supplementary Resources† for the Introduction

- Building a Culture of Quality Data presentation
- Discussion starters:
  - Describe the basic flow of data for enrolling a student and reporting that student's state assessment score.
  - Describe the steps leading up to student-data reporting required by the state and the consequences of inaccuracies in those data.
  - Describe the consequences of inaccurate data for scheduling or assessments.

Activities and Instruction

Item

- Have participants complete the **Quality Data Culture Education Scenario** individually, and then have them share their responses with others in a small group. Ask participants to report out their responses to the questions on the handout and record them on easel paper or an overhead projector.
- After sharing the lesson objectives, have participants refer to the **Quality Data Culture Concept Map** as a way to focus and organize their learning. Explain that they can use this map to take notes during this and subsequent lessons.
- Have participants read the Introduction on pages 3 to 5 of the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***. Instruct participants to record on the **Quality Data Culture Concept Map** any information they think fits the categories. Encourage participants to add other categories to their concept maps as the workshop progresses and to share their ideas.
- Ask participants to discuss what they read in the Introduction and indicate where they placed information on their concept maps.

Lesson Resources for Activities and Instruction

- Quality Data Culture Education Scenario
- Forum Guide to Building a Culture of Quality Data: A School & District Resource
- Quality Data Culture Concept Map

* Lesson Resources for each lesson are included on the pages immediately following the lesson, as well as on the CD that accompanies this publication.
† Supplementary Resources for each lesson are included on the CD that accompanies this publication. Appendix C provides directions on downloading the materials.

Supplementary Resources for Activities and Instruction

- Quality Data Culture Concept Maps (a) and (b)
- Quality Data Culture Concept Map presentation
- Discussion starters
- Describe the basic flow of data from enrolling a student to reporting that student's state assessment score.
- Describe in detail the flow of data that results in reporting attendance data to the state.

Summary/Wrap-Up

Item

- Invite participants to revise their responses in the **Quality Data Culture Education Scenario**. Have participants discuss their changes and additions.
- Complete the *After* and *Next* columns of the **BAN Chart** to gauge learning and next steps. Ask for suggestions for further training.
- Make the general statement that throughout the training, much of the work that will be done in one session may be used for activities in later sessions. Furthermore, many of the handouts can form the basis of a detailed plan for a school or district to improve the quality of its data. Therefore, participants should keep all the work they do and bring the sheets they accumulate to each subsequent session.

Lesson Resources for the Summary/Wrap-Up

- Quality Data Culture Education Scenario
- Before…After…Next (BAN) Chart

Before…After…Next (BAN) Chart

Name: _____

District: _____

Before: On a scale from 1-4 (1 being the least knowledgeable to 4 being the most knowledgeable) indicate your level of knowledge before this workshop began.

After: On a scale from 1-4, indicate your knowledge level after the workshop.

Next: Finally, indicate by rank ordering those issues you would like to explore next.

Quality Data Culture Issues	*Before*	*After*	*Next*
I could clearly define what is meant by a culture of quality data.			
I could explain the importance of collecting quality data.			
I could identify the components of a culture of quality data.			
I could identify the factors affecting data quality.			
I could identify the roles and responsibilities of staff members involved in the culture of quality data.			
I could explain the concept and importance of data ownership.			

Quality Data Culture Education Scenario

Name: _____

District: _____

Choose an education situation that would generate data that would later need to be reported or used to make decisions. Describe that situation in the first cell of the right column. Using that education situation, complete the following chart to begin to identify the impact of quality data on educational decisionmaking.

Describe a situation that illustrates the need for quality data collection.	(*For example:* Describe the quality data needs and impact when a student enrolls in seventh grade in your school in mid-October.)
Who are the people responsible for collecting and analyzing the data?	
What data need to be collected to adequately and accurately analyze the situation?	
What tools are necessary to collect and record the data?	
Who needs to have access to the data?	
What level of training is necessary in order to collect and analyze the data?	
What is the potential impact of incorrect, inaccurate or missing data?	

DATA-QUALITY CULTURE CONCEPT MAP

Lesson: Assessing Your Local Education Agency's Data Quality

Participants:

All Key Players*

Description

This lesson is one of four workshops that serve as an introduction to building a culture of quality education data. All participants should complete all four workshops for maximum benefits. In this workshop, participants will begin to identify the elements that go into a culture of quality data and to assess their school or district with regard to data quality issues.

Objectives

- Determine the status of data quality in participants' schools.
- Begin planning to improve schools' data quality.
- Identify factors affecting data quality.

Instructor Preparation

- Read pages 7 to 16 of the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***.
- If you did not do so prior to this workshop, make a copy of the **Before…After…Next (BAN) Chart** for each participant.
- Look over the **Flow of Education Data** diagram from the next lesson, ***Classifying Education Data***, in preparation for the activities and possible discussions about steps in the process of entering, reporting, and using data.
- Determine whether you want to assign participants to partners for the think/pair/share activity† in the Introduction below and, if so, identify the pairings.
- Make a single copy of each of the following learning resources (which can be found on the pages following the lesson plan) for each participant:
  - Quality Data Self-Assessment Survey
  - Pages 7 to 16 of the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***
  - Quality Data Culture Concept Map
  - Quality Data Culture Concept Map (expanded)

Essential Learnings

- Establishing a culture of quality data in a Local Education Agency (LEA) requires thought and planning, as do all transformational and strategic initiatives. After determining what is meant by a "culture of quality data," one of the next steps is assessing the nature of the data culture as it currently exists in the school or district.
- Many factors and practices in an LEA contribute to the quality of its data: standards and guidelines, policies and regulations, training and professional development, appropriate data documentation (e.g., calendars, data dictionaries, business rules), technology, etc. Having a Data Steward/Coordinator with primary responsibility for overseeing all these efforts can be an important factor in the successful transformation of the data culture.

* Key players include board members, superintendents, principals, data stewards/coordinators, teachers, technology support staff, and office staff.

† In think/pair/share activities, participants are asked to think about an issue or question, talk with a partner about their responses, and then share those responses with the larger group.

Introduction

Item

- As a means of reviewing the objectives, have participants revisit the *Before* column of **Before…After…Next (BAN) Chart** to note progress. If participants did not do the ***What is a Culture of Quality Data?*** lesson prior to this one, have them fill in the *Before* column of the **BAN Chart** from that lesson.)
- List the steps in the process from the time a teacher enters a grade in the classroom record (paper or electronic) until a final grade appears on a transcript. What needs to be done? Who touches the data? What are the likely places for errors to occur? Have participants think/pair/share their responses and report out where errors are likely to occur.

Lesson Resources for the Introduction

- Before…After…Next (BAN) Chart (also used in the lesson, ***What is a Culture of Quality Data?***)

Supplementary Resources for the Introduction

- Discussion starters
  - Describe the steps leading up to student-data reporting required by the state and the consequences of inaccuracies in that data.
  - Describe the consequences of bad data for scheduling or assessments.

Activities and Instruction

Item

- Have participants read "Helping a School Achieve Quality Data" and "Helping a District Achieve Quality Data" on pages 7 to 16 of the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***. Participants should continue to add to the **Quality Data Culture Concept Map**. Participants should share their additions to the concept map.
- Have participants complete the **Quality Data Self-Assessment Survey** for either the school or district level, as appropriate to the workshop participant's professional role.
- After completing the **Quality Data Self-Assessment Survey**, ask participants to share their findings in small groups. Have each group report out some common findings that point up strengths or weaknesses of the existing system(s). This self-assessment tool will help participants determine what next steps need to be taken in order to build a quality data culture.
- Encourage participants to add to the **Quality Data Culture Concept Map**.

Lesson Resources for Activities and Instruction

- ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***
- Quality Data Self-Assessment Survey
- Quality Data Culture Concept Map (also used in the ***What is a Culture of Quality Data?*** lesson)

Summary/Wrap-Up

Item

- Have participants read the "Summary" in the ***Forum Guide to Building a Culture of Quality Dat***a, page 17. Participants should then complete **Planning for Quality Data**. Time permitting, they can share their priority areas in a small group or report out at random in the whole-group setting.
- Have participants complete the *After* and *Next* columns of **BAN Chart**. Instructors can collect these charts as additional needs assessment information for future professional development.
- Have participants compare the **Quality Data Culture Concept Map (expanded)** with the notes they took.

Lesson Resources for the Summary/Wrap-Up

- Planning for Quality Data
- Before…After…Next (BAN) Chart (also used in the ***What is a Culture of Quality Data?*** lesson)
- Quality Data Culture Concept Map (original and expanded)

Quality Data Self-Assessment Survey (School)

District: _____

School Self-Assessment

Rate your response to each of the prompts based on the following scale:

No evidence – 1 **Little evidence – 2** **Some evidence – 3** **Strong evidence – 4**

(If you do not know how to rate the issue, simply put a question mark [?] in the rating column.)

School Policies And Regulations

School Data Quality Issue	*Rating*
• Policies are in place to guide reporting of data to the district.	_____
• Appropriate staff knows and has access to information about relevant policies.	_____
• Appropriate staff understands and adheres to state and federal regulations for recording and reporting.	_____
• Appropriate staff knows and adheres to policies and regulations protecting confidentiality.	_____
• The principal assumes responsibility for ensuring compliance with policies and regulations.	_____

School Standards and Guidelines

School Data Quality Issue	*Rating*
• Standards and guidelines exist to ensure accuracy and encourage respect for data validity.	_____
• The standards and guidelines are detailed enough to define acceptable error rate, appropriate turnaround time, and acceptable security measures.	_____
• Guidelines exist that describe the procedures and the standards that establish performance levels.	_____
• People most knowledgeable about data entry, including office support staff, are included in establishing the standards and guidelines.	_____
• The guidelines clearly indicate what data are to be entered at the school, who should enter the data, and the purpose of the data.	_____
• Teachers are involved in establishing standards and guidelines.	_____
• Standards and guidelines are posted in areas where data entry occurs.	_____

School Training and Professional Development

School Data Quality Issue	*Rating*
• Both training in data-specific skills as well as broader professional development are provided for appropriate staff.	_____
• School administrators encourage staff to attend professional development or training sessions regarding data.	_____
• School administrators allow attendees at data quality training sessions to discuss findings and new directions at staff meetings or in written communications.	_____
• Administrators hold discussions about data quality that include all staff members so that everyone understands the importance of data in the school.	_____
• Administrators involve those responsible for data entry and security within the school in discussions about what changes in procedures may be needed.	_____

Quality Data Self-Assessment Survey (School) (continued)

No evidence – 1 **Little evidence – 2** **Some evidence – 3** **Strong evidence – 4**

School Data Quality Issue (continuedf)	*Rating*
• Professional development regarding data quality includes information on the impact of the data and how the data will be used.	_____

Timelines and Calendars

School Data Quality Issue	*Rating*
• A calendar of due dates and timelines has been established.	_____
• Everyone who works with the data helps to determine the calendar.	_____
• Technology staff is aware of the data entry and reporting calendar in order to provide appropriate access and support.	_____
• Adequate, perhaps additional, staff is available to meet peak data entry requirements.	_____

Technology (Hardware + Software + Network)

School Data Quality Issue	*Rating*
• The data entry system is user friendly.	_____
• The data entry system is dynamic and responsive to recommendations for change.	_____
• The data entry system provides for secure reporting and access.	_____
• The security system does not interfere with the timely reporting and retrieval of data.	_____

Data Entry Environment

School Data Quality Issue	*Rating*
• Space is adequate to work comfortably.	_____
• Data entry area is quiet and free from frequent interruptions.	_____
• Data entry occurs on a regular, established schedule.	_____

Quality Data Self-Assessment Survey (District)

District: _____

District Self-Assessment

Rate your response to each of the prompts based on the following scale:

No evidence – 1 **Little evidence – 2** **Some evidence – 3** **Strong evidence – 4**

(If you do not know how to rate the issue, simply put a question mark [?] in the rating column.)

District Policies and Regulations

District Data Quality Issue	*Rating*
• District staff has confidence in the data provided to regulatory agencies.	_____
• Processes for the transfer of data have been developed collaboratively with staff responsible for developing reports, with representatives from the technology staff, with representatives from the schools involved, and with staff who are responsible for data entry.	_____
• All staff members affected by data collection have an understanding of what is to be done and why it is important.	_____

District Standards and Guidelines

District Data Quality Issue	*Rating*
• Standards and guidelines have been developed with the active participation of those responsible for quality data, including data entry staff.	_____
• District administrators and coordinators have established requirements for timely, accurate data that encourage quality and use the resulting information to make data-based decisions.	_____
• Workable guidelines describe the process to follow when an error is discovered in a report.	_____
• The guidelines state who will be responsible for notifying the school if errors are discovered.	_____
• The guidelines determine who will follow up on the initial notice of a problem.	_____
• The guidelines determine what reports or other assistance will be provided to schools as they try to correct errors.	_____

District Training and Professional Development

District Data Quality Issue	*Rating*
• The professional development program emphasizes to all staff the importance of exercising care when entering data.	_____
• The superintendent and board of education send a strong message about the importance of data quality.	_____
• Hands-on training is provided to get staff used to the data entry screens.	_____
• Handbooks or guidebooks that provide pictures of data entry screens, systematic instructions, and the rationale for entering the data are available to the staff during and after training.	_____
• Professional development includes information on procedures for obtaining assistance regarding data entry practices and policies.	_____

Quality Data Self-Assessment Survey (District) (continued)

No evidence – 1 **Little evidence – 2** **Some evidence – 3** **Strong evidence – 4**

District Data Quality Issue (continued)	*Rating*
• The training handbook includes copies of reports so that people entering the data will have a sense of how their work affects the operation of the school.	_____
• Participants are provided an opportunity for structured feedback about training programs regarding data quality issues and general data entry issues.	_____
• Follow-up discussions are held after the completion of new or major data efforts as a means of evaluating related training programs.	_____
• Part-time staff members hired to meet data crunch periods are provided with adequate professional development and hands-on training to ensure quality data entry, to convey the purpose and importance of the data.	_____

District Timelines and Calendars

District Data Quality Issue	*Rating*
• A district calendar has been established to track the time when reports are due.	_____
• The calendar identifies what data are required from schools and when the district, state, or federal programs need the information.	_____
• A district data coordinator is responsible for maintaining this calendar.	_____
• The calendar aids in reducing redundant data requests.	_____
• All district staff has access to the district data calendar with timelines and deadlines.	_____
• Schools are informed of the purpose of information that is requested and understand the link to instructional programs or reporting regulations.	_____

District Technology (Hardware + Software + Network)

District Data Quality Issue	*Rating*
• The computer infrastructure exists to serve the needs of the people in the organization.	_____
• The technology staff is involved in the decision-making process about data collection and reporting.	_____
• The technology coordinator schedules extra support personnel to meet needs and can arrange for maintenance to be carried out at times of low system use.	_____
• The technology helps ensure accuracy through the automation of quality control.	_____
• Password security procedures have been distributed to all staff.	_____
• Procedures for changing passwords have been distributed.	_____
• A help desk is available to address security procedures.	_____

District Data Entry Environment

District Data Quality Issue	*Rating*
• Building plans address the need for appropriate spaces for data entry.	_____
• Current space has been assessed for the best use for data entry.	_____
• When necessary, office staff is allowed overtime in order to make data entry deadlines.	_____
• Part-time staff is hired at those times when existing staff cannot handle the demands for data entry.	_____

Planning for Quality Data

Referring to your **Quality Data Culture Concept Map** and the **Quality Data Self-Assessment Survey** results, determine at least two priority areas that need to be addressed in order for your organization to move forward in building a culture of quality data. Complete the planning chart below to establish the next steps that need to be taken to achieve this culture.

Where are you now?	*Where do you need to go?*	*How will you get there?*	*Who will get you there?*
Priority Area	*Goal*	*Activities*	*Data Players*
Priority Area	*Goal*	*Activities*	*Data Players*

Before…After…Next (BAN) Chart

Name: _____

District: _____

Before: On a scale from 1-4 (1 being the least knowledgeable to 4 being the most knowledgeable) indicate your level of knowledge before this workshop began.

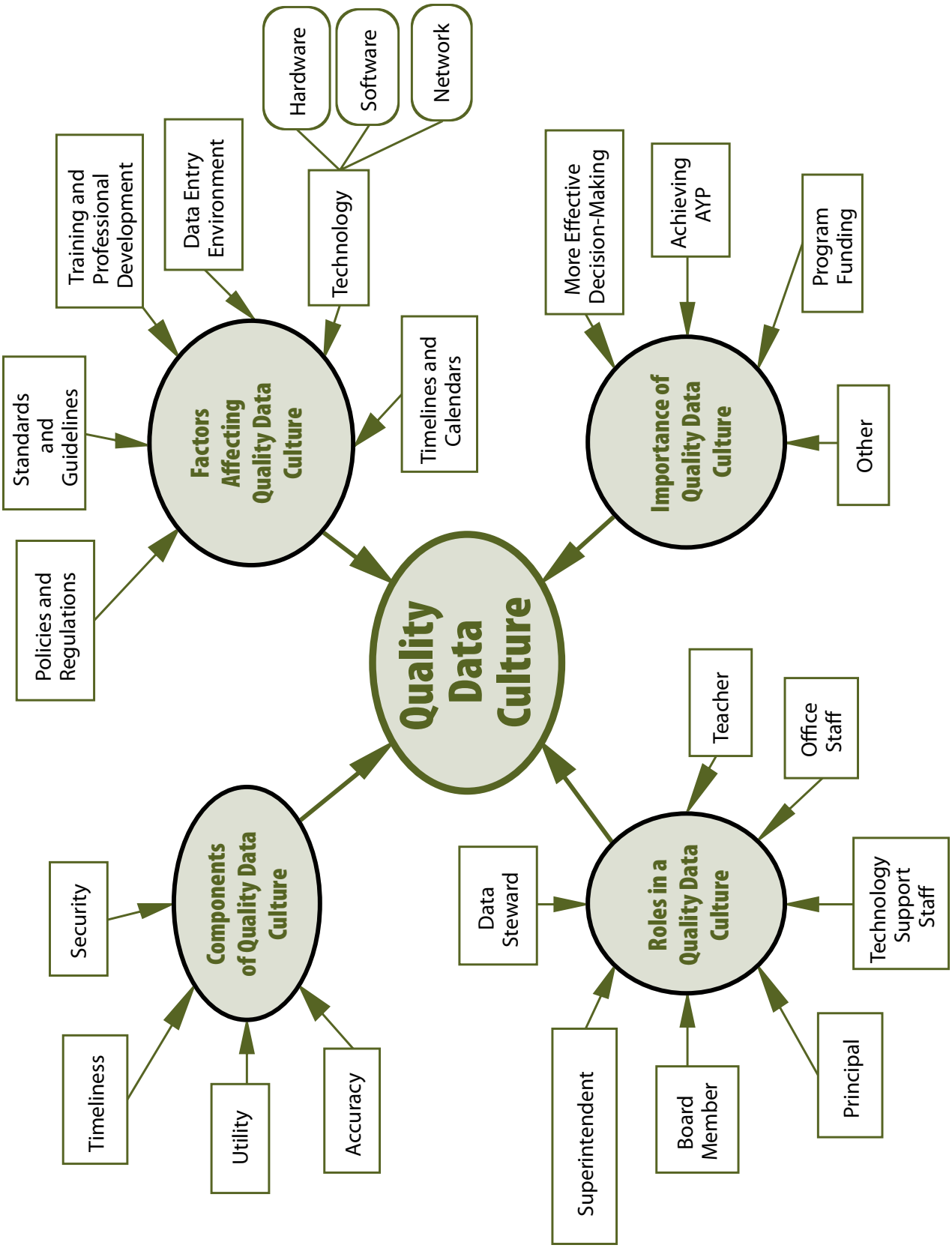
After: On a scale from 1-4, indicate your knowledge level after the workshop.

Next: Finally, indicate by rank ordering those issues you would like to explore next.

Quality Data Culture Issues	*Before*	*After*	*Next*
I could clearly define what is meant by a culture of quality data.			
I could explain the importance of collecting quality data.			
I could identify the components of a culture of quality data.			
I could identify the factors affecting data quality.			
I could identify the roles and responsibilities of staff members involved in the culture of quality data.			
I could explain the concept and importance of data ownership.			

QUALITY DATA CULTURE CONCEPT MAP

QUALITY DATA CULTURE CONCEPT MAP (expanded)



Lesson: Classifying Education Data

Participants:

All Key Players*

Description

This lesson is one of four workshops that serve as an introduction to building a culture of quality education data. All participants should complete all four workshops for maximum benefit. In this workshop, participants will explore categories of school data (as defined by educator and author, Victoria Bernhardt†) and their application, and identify the uses of data within their own schools. They will also examine the cycle of data production and application.

Objectives

- Describe one way to classify school data.
- Identify data elements most useful for improving instruction and student achievement.
- Read and analyze basic data outputs.

Instructor Preparation

- Determine if, within your region or state, a data classification system other than Victoria Bernhardt's *Multiple Measures of School Data* is in common use or commonly known. If so, you may want to change the lesson resources to reflect that classification system.
- Read the **Multiple Measures** article by Victoria Bernhardt reprinted in this volume.
- Make a single copy of the following lesson resources (which can be found on the pages following the lesson plan) for each participant:
  - **Multiple Measures of Data** graphic
  - **Multiple Measures** article by Victoria Bernhardt
  - Types of Data chart
- Arrange to display the Summary/Wrap-Up prompt (on a flip chart or blackboard or projected on a screen) in such a way that it can be referred to by the entire group during discussion.

Essential Learnings

- Many types of data are available that can help guide decisionmaking. Often, Local Education Agencies (LEAs) focus exclusively on student achievement data. Planning for a culture of quality data involves recognizing the various types of data and providing for collection and storage systems adapted to their use.
- Victoria Bernhardt's system for classifying school data is only one of many possible such schemes. This curriculum uses it as a framework for helping LEAs understand and use the data they have, as well as better realize the importance of quality data.

* Key players include board members, superintendents, principals, data stewards/coordinators, teachers, technology support staff, and office staff.

† Victoria Bernhardt has written numerous books about understanding data and applying data analysis to improve school and school district operations and student achievement. She is currently the executive director of Education for the Future, a not-for-profit initiative located on the campus of California State University, Chico, California.

Introduction

Item

- Use the **Multiple Measures of Data** graphic to discuss the categories of data as defined by Victoria Bernhardt and the kinds of information the different types of data can provide.
- Have participants discuss strengths and weaknesses of Bernhardt's classification scheme and determine which types of data their LEAs are tracking and/or applying.

Lesson Resources for the Introduction

- Multiple Measures of Data graphic
- Multiple Measures article by Victoria Bernhardt

Supplementary Resources for the Introduction

- Multiple Measures presentation

Activities and Instruction

Item

- Present participants with the ***Types of Data*** grid and have them complete as many cells as possible. Share answers with the whole group.
- Starting with a single data item (e.g., attendance, final grade, or state assessment outcomes), develop with the group a data-flow diagram that illustrates the steps involved in creating, recording, reporting, and applying that item. For each step in the cycle, include the positions of the people responsible for that step.
- For each of the diagrams, have the group identify what the consequences would be if the data in question were inaccurate or late.

Lesson Resources for Activities and Instruction

- Types of Data

Supplementary Resources for Activities and Instruction

- The Flow of Education Data (also used in the ***Data Flow and Data Cycles*** lesson, found in ***Part II: Data Steward/Coordinator Lessons***)

Summary/Wrap-Up

Item

In small groups, have participants respond to the following prompt:

> In your district/school, determine how often and how well you use data for the following purposes: to improve student achievement; to evaluate curricula/programs; to evaluate instruction. Identify what procedures or processes are in place to assist staff in applying data to curricular and instructional decisions.

MULTIPLE MEASURES*

Victoria L. Bernhardt, Ph.D.

Let's talk about multiple measures. Many state and federal regulations now require schools to report multiple measures—multiple measures of student achievement, that is. While we applaud these changes from the old method of using one standardized achievement score to make decisions about how well a school is doing, multiple measures of student learning alone are not sufficient for comprehensive school improvement, and, in fact, can be misleading in this regard.

Many educators believe that over 50 percent of student achievement results can be explained by other factors. That being true, if we want to change the results we are getting, we have to understand the other 50 percent to know why we are getting the results we are getting. Then we need to change what we do in order to get different results.

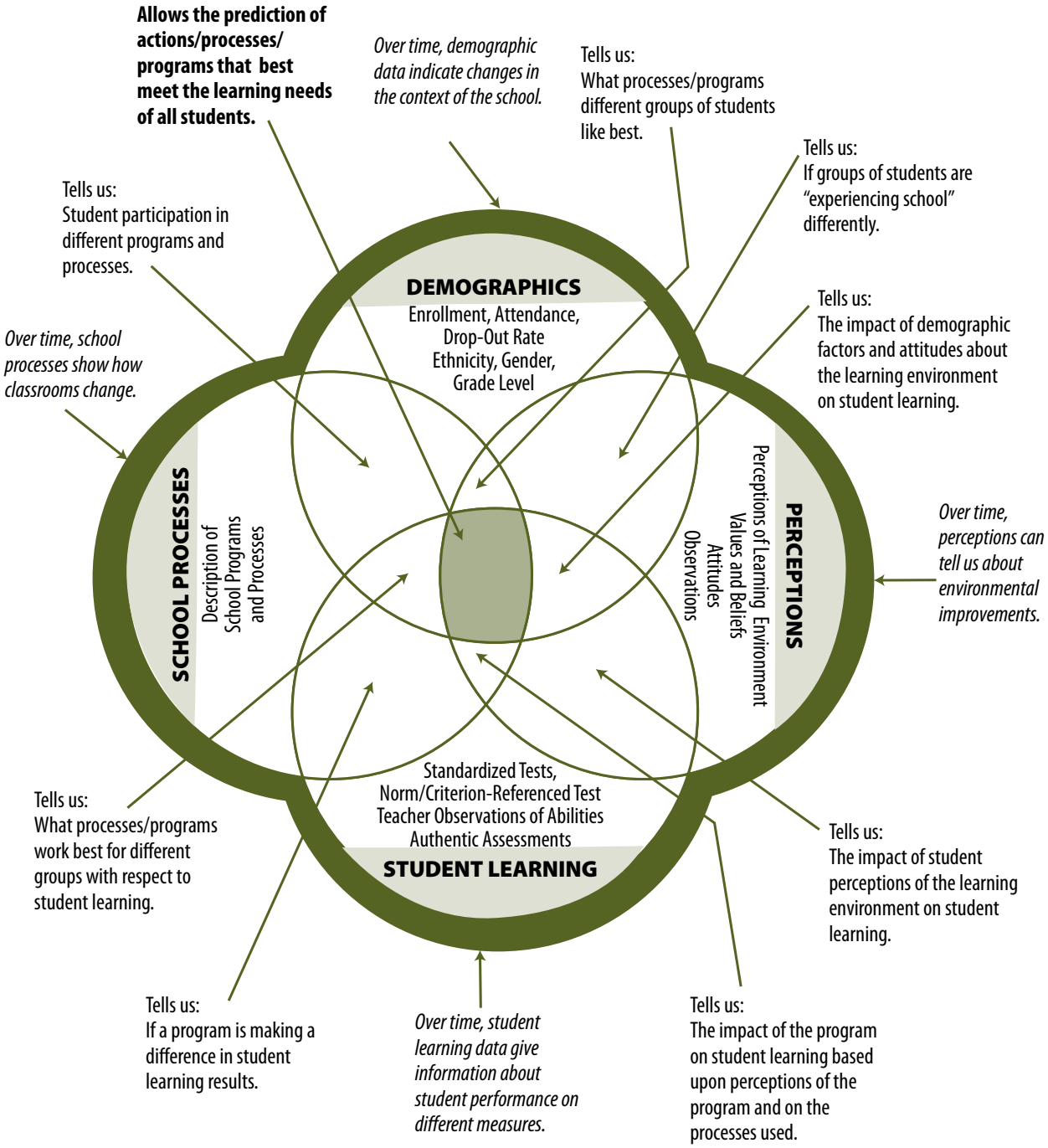
Any definition of multiple measures should include four major measures of data—not just student learning, but also demographics, perceptions, and school processes. Analyses of demographics, perceptions, student learning, and school processes provide a powerful picture that will help us understand the school's impact on student achievement. When used together, these measures give schools the information they need to improve teaching and learning to get positive results.

In the figure that follows, the four major measures are shown as overlapping circles. The figure illustrates the type of information that one can gain from individual measures and the enhanced levels of analyses that can be gained from the intersections of the measures.

One measure by itself gives useful information. Comprehensive measures, used together and over time, provide much richer information. Ultimately, schools need to be able to predict what we must do to meet the needs of all students they have, or will have in the future. The information gleaned from the intersections of these four measures (demographics, perceptions, student learning, and school processes) helps us to define the questions we want to ask, and focuses us on what data are necessary in order to find the answers.

* Reprinted with permission, Victoria Bernhardt, Executive Director, Education for the Future Initiative, http://eff.csuchico.edu

MULTIPLE MEASURES OF DATA



Note: Adapted from *Data Analysis for Comprehensive Schoolwide Improvement* (p.15), by Victoria L. Bernhardt, 1998, Larchmont, NY: Eye on Educcation. Copyright ©1998 Eye on Eduucation, Inc. Reprinted with permission.

Demographic data provide descriptive information about the school community, such as enrollment, attendance, grade level, ethnicity, gender, and native language. Demographic data are very important for us to understand. They are the part of our educational system over which we have little or no control, but with which we can observe trends and glean information for purposes of prediction and planning. Demographic data assist us in understanding the results of all parts of our educational system through the disaggregation of other measures by demographic variables.

Perceptions data help us understand what students, parents, teachers, and others think about the learning environment. Perceptions can be gathered in a variety of ways—through questionnaires, interviews, and observations. Perceptions are important since people act in congruence with what they believe, perceive, or think about different topics. It is important to know student, teacher, and parent perceptions of the school so school personnel know what they can do to improve the system. Perceptions data can also tell us what is possible.

Student Learning describes the results of our educational system in terms of standardized test results, grade point averages, standards assessments, and authentic assessments. Schools use a variety of student learning measurements—usually separately—and sometimes without thinking about how these measurements are interrelated. Schools normally think of multiple measures as looking only at different measures of student learning, rather than including demographics, perceptions, and school processes.

School Processes define what teachers are doing to get the results that we are getting. For example, how is reading being taught at grade two, or math at grade six? School Processes include programs, instructional strategies, and classroom practices. This is the measure that seems to be the hardest for teachers to describe. Most often, teachers say they do what they do intuitively, and that they are too busy doing whatever they do to systematically document and reflect on their processes. To change the results schools are getting, teachers and school personnel must begin to document these processes and align them with the results they are getting in order to understand what to change to get different results, and to share their successes with others.

A Snapshot of the Measures

Looking at each of the four measures separately, we get snapshots of data in isolation from any other data at the school level. At this level we can answer questions such as—

- How many students are enrolled in the school this year? (*Demographic*)
- How satisfied are parents, students, and/or staff with the learning environment? (*Perceptions*)
- How did students at the school score on a test? (*Student Learning*)
- What programs are operating in the school this year? (*School Processes*)

By looking over time we can answer questions such as, but not limited to:

- How has enrollment in the school changed over the past five years? (*Demographics*)

- How have student perceptions of the learning environment changed over time? (*Perceptions*)
- Are there differences in student scores on standardized tests over the years? (*Student Learning*)
- What programs have operated in the school in the past five years? (*School Processes*)

Intersection of Two Measures

Crossing two measures, we begin to see a much more vivid picture of the school, allowing us to answer questions such as:

- Do students who attend school every day perform better on the state assessment than students who miss more than five days per month? (*Demographics* by *Student Learning*)
- What strategies do third-grade teachers use with students whose native languages are different from that of the teacher? (*Demographics* by *School Processes*)
- Is there a gender difference in students' perceptions of the learning environment? (*Perceptions* by *Demographics*)
- Do students with positive attitudes about school do better academically, as measured by the state assessment? (*Perceptions* by *Student Learning*)
- Are there differences in how students enrolled in different programs perceive the learning environment? (*Perceptions* by *School Processes*)
- Do students who were enrolled in active hands-on content courses this year perform better on standardized achievement tests than those who took the content courses in a more traditional manner? (*Student Learning* by *School Processes*)

Looking at the interaction of two of the measures over time allows us to see trends as they develop (e.g., standardized achievement scores disaggregated by ethnicity over the past three years can help us see if the equality of scores, by ethnicity, is truly a trend or an initial fluctuation). This interaction also begins to show the relationship of the multiple measures and why it is so important to look at all the measures together.

Intersection of Three Measures

As we intersect three of the measures at the school level (e.g., student learning measures disaggregated by ethnicity compared to student questionnaire responses disaggregated by ethnicity), the types of questions that we are able to answer include the following:

- Do students of different ethnicities perceive the learning environment differently, and are their scores on standardized achievement tests consistent with these perceptions? (*Demographics* by *Perceptions* by *Student Learning*)

- What instructional process(es) did the previously non-English-speaking students enjoy most in their all-English classrooms this year? (*Perceptions* by *Demographics* by *School Processes*)
- Is there a difference in students' reports of what they like most about the school by whether or not they participate in extracurricular activities? Do these students have higher grade point averages than students who do not participate in extracurricular activities? (*Perceptions* by *Student Learning* by *School Processes*)
- Which program is making the biggest difference with respect to student achievement for at-risk students this year, and is one group of students responding "better" to the processes? (*School Processes* by *Student Learning* by *Demographics*)

Looking at three measures over time allows us to see trends, to begin to understand the learning environment from the students' perspectives, and to know how to deliver instruction to get the desired results from and for all students.

Intersection of Four Measures

Our ultimate analysis is the intersection of all four measures, at the school level (e.g., standardized achievement tests disaggregated by program, by gender, within grade level, compared to questionnaire results for students by program, by gender, within grade level.) These interactions allow us to answer such questions like:

- Are there differences in achievement scores for eighth-grade girls and boys who report that they like school, by the type of program and grade level in which they are enrolled? (*Demographics* by *Perceptions* by *School Processes* by *Student Learning*)

It is not until we intersect all four circles, at the school level, and over time that we are able to answer questions that will predict if the actions, processes, and programs that we are establishing will meet the needs of all students. With this intersection, we can answer the ultimate question:

- Based on whom we have as students and how they prefer to learn, and what programs they are in, are all students learning at the same rate? (*Student Learning* by *Demographics* by *Perceptions* by *School Processes*)

Focusing the Data

Data analysis should not be about gathering data. It is very easy to get analysis paralysis by spending time pulling data together and not spending time using the data. School level data analysis should be about helping schools understand if they are achieving their purpose and guiding principles and meeting the needs of all students—and, if not, why not? A good way to avoid analysis paralysis is to consider using key questions and building your analyses around the answers to these questions.

This type of data analysis is easy when schools are clear on their purpose and what they expect students to know and be able to do. These analyses comfortably flow from questions that teachers and administrators naturally ask themselves to learn if these purposes are being met. The good news is that by looking at trends of the intersected four major measures, schools do not have to conduct complicated program evaluations or needs analyses. These intersections can tell them just about everything they would want to know, and the data are fairly readily available.

SUMMARY

The moral of the story is, if we want to get different results, we have to change the processes that create the results. Just looking at student achievement measures focuses teachers only on the results, it does not give them information about what they need to do to get different results.

By asking for student achievement measures alone, state and federal program officers can never use these data because the context is missing. This request might also mislead schools into thinking they are analyzing student learning in a comprehensive fashion. Just looking at student learning measures could in fact keep teachers from progressing and truly meeting the needs of students.

When we focus only on student learning measures, we see school personnel using their time figuring out how to look better on the student learning measures. We want school personnel to use their time figuring out how to be better for all students.

Source: Bernhardt, V.L., (1998, March). Invited Monograph No. 4. *California Association for Supervision and Curriculum Development* (CASCD).

Types of Education Data

Victoria Bernhardt identifies four types of data that can be used to make decisions in educational settings:

- **Student Learning** – data such as test scores, grades, graduation rate, etc.
- **Perceptions** – data that tell how people feel about being part of an educational institution, i.e., how they see it
- **School Processes** – data that provide information on the educational environment, programs, vision, etc.
- **Demographics** – data that tell who the educational system serves, who works there, what subgroups are represented, etc.

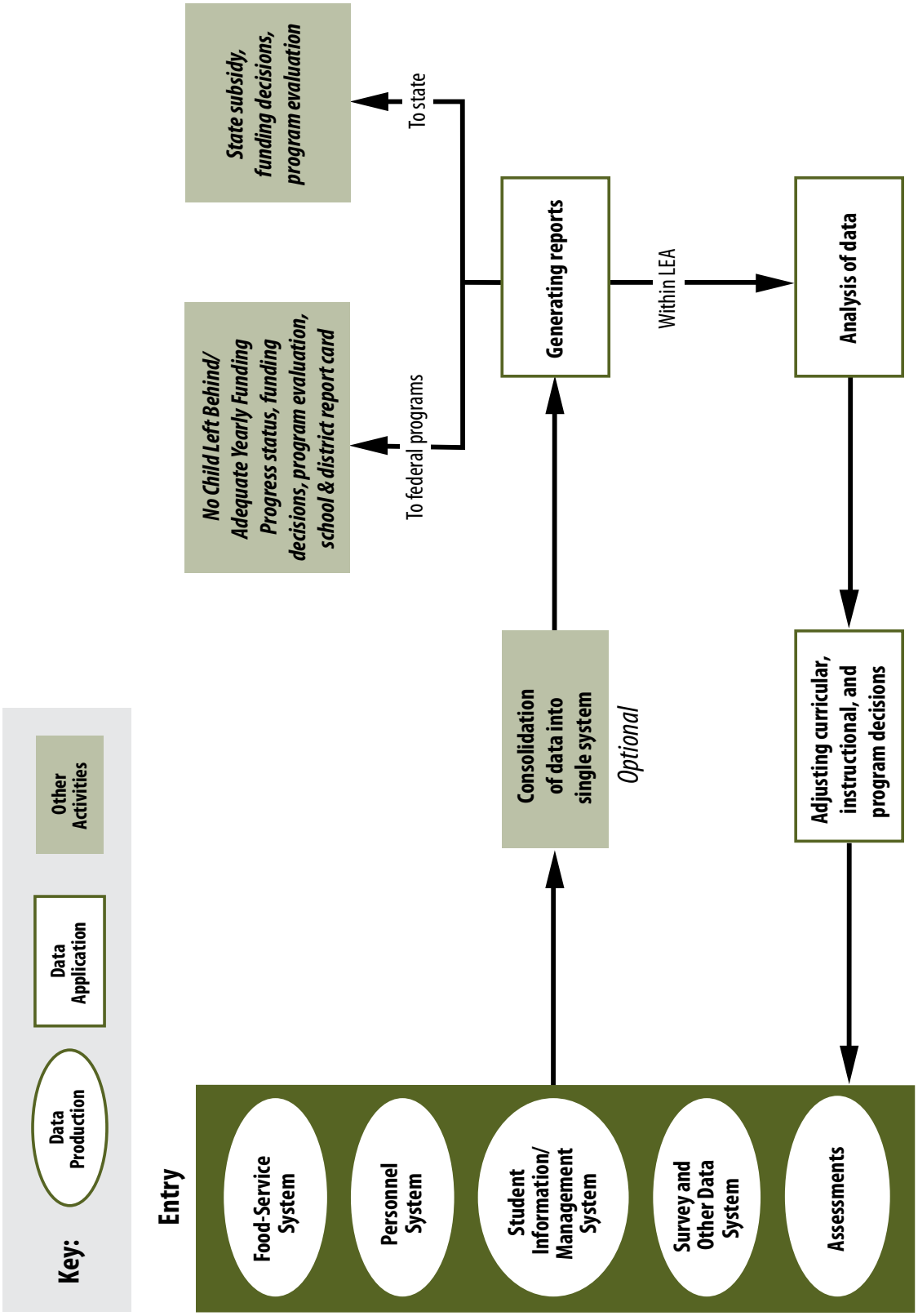
Complete the following grid by brainstorming what data your district/school collects, what format the data are in (electronic, paper, etc.), where they are maintained, what information/analysis could be derived from the data, and the consequences for a school, district, or student if the data are inaccurate.

Student-learning data	Format	Location	Used for	Consequences of inaccurate data
Grades	Paper	Cumulative record folders for each building	Determining need for remediation	
State math assessment scores	Electronic	District and building offices	Adequate Yearly Progress; reports to state education agency; determining need for remediation	
Perceptions data	**Format**	**Location**	**Used for**	**Consequences of inaccurate data**
Parent survey results	Electronic	Web server	Teacher feedback; program evaluation	
Student Council survey results	Electronic	Web server	Evaluating food service, extracurriculars, programs	

Types of Education Data (continued)

School-processes data	Format	Location	Used for	Consequences of inaccurate data
Class rosters	Electronic	Student information system	Scheduling; program evaluation	
Sports enrollment	Paper	Athletic Director's office	Extracurricular program evaluation and planning	
Demographics data	**Format**	**Location**	**Used for**	**Consequences of inaccurate data**
Student ethnicity	Electronic	Student information system	AYP; district report card	
Teacher certification level	Electronic	Payroll system	Determining teacher salaries	

THE FLOW OF EDUCATION DATA



Lesson: Security and Confidentiality

Participants:

All Key Players*

Description

This lesson is one of four workshops that serve as an introduction to building a culture of quality education data. All participants should complete all four workshops. In this workshop, participants will learn about the security component of quality data, specifically the Family Educational Records and Privacy Act (FERPA) and Health Insurance Portability and Access Act (HIPAA) regulations that govern school confidentiality issues.

Objectives

- Identify practices that compromise security.
- Distinguish confidential and public student and staff information based on FERPA and HIPAA regulations.

Instructor Preparation

- Familiarize yourself with the correct answers to the **FERPA/HIPAA Quiz** by thoroughly reading the **FERPA/HIPAA Quiz Answer Key**.
- Make a copy of the **FERPA/HIPAA Quiz Answer Key** for you to refer to during the workshop.
- Make a single copy of the following lesson resources (which can be found on the pages following the lesson plan) for each participant:
  - FERPA/HIPAA Quiz
  - Guide to Confidentiality
  - *Forum Guide to the Privacy of Student Information: A Resource for Schools* (this resource is not included here, but is available at http://nces.ed.gov/pubs2006/2006805.pdf)
  - Health Records: FERPA and HIPAA
  - FERPA/HIPAA Quiz Answer Key
  - Examples of Best Practices Regarding Data Security

Essential Learnings

- Rights for students and parents and requirements for local education agencies (LEAs) are many and complex under the Family Educational Records and Privacy Act (FERPA) and the Health Insurance Portability and Access Act (HIPAA).
- When talking about data security, both the physical security of the data (preventing inappropriate taking of data) and confidentiality (protecting data to prevent the casual or deliberate imparting of private information through conversation or carelessness) are at issue.
- Security and confidentiality issues arise with regard to paper records, electronic records, and conversations.
- The arrangement of desks and computer screens and the ability to lock desk and file drawers are important factors in data security.
- Directory information (that information published in a district's directories) is normally not confidential. Parents have a right to define any of the normal directory information for their child as confidential.

* Key players include board members, superintendents, principals, data stewards/coordinators, teachers, technology support staff, and office staff.

Introduction

Item

- Have participants complete the **FERPA/HIPAA Quiz** by recording their "before learning" answers in the *Pre* column blank. (Participants will revise their answers to the questions as they progress through the activities of the workshop and record their "after learning" answers in the *Post* column blank for comparison when the correct answers are reviewed later in the workshop.)

Lesson Resources for the Introduction

- FERPA/HIPAA Quiz

Activities and Instruction

Item

- Provide participants with the **Guide to Confidentiality**, as well as with **Health Records: FERPA and HIPAA** and the ***Forum Guide to the Privacy of Student Information: A Resource for Schools***. Have participants search for correct answers to the FERPA/HIPAA Quiz completed in the Introduction section. This may be completed in small groups or pairs. Participants should record what they now think are the correct answers in the second blank provided on the quiz.
- Have participants share the answers to the **FERPA/HIPAA Quiz** that they recorded during the search of the regulations and their discussion of the scenarios.
- Pass out the **FERPA/HIPAA Quiz Answer Key** to participants. Have participants put the correct answers in the Post column blank and then discuss which questions they got wrong and why, as well as the questions whose correct answer most surprised them. Note the several questions where the correct answer is both True and False, and discuss the implications of these ambiguities for policies and practice.

Lesson Resources for Activities and Instruction

- Guide to Confidentiality
- Health Records: FERPA and HIPAA
- ***Forum Guide to the Privacy of Student Information: A Resource for Schools*** (http://nces.ed.gov/pubs2006/2006805.pdf)
- FERPA/HIPAA Quiz
- FERPA/HIPAA Quiz Answer Key

Supplementary Resources for Activities and Instruction

- Family Educational Rights and Privacy Act (FERPA)
- Family Educational Rights and Privacy Act Regulations
- ***Forum Guide to Protecting the Privacy of Student Information: State and Local Education Agencies*** (http://nces.ed.gov/pubs2004/2004330.pdf)

Summary/Wrap-Up

Item

- On the **Examples of Best Practices Regarding Data Security** handout, have participants check off those items already in place in their LEA. Then discuss what barriers exist to implementing the practices not in place and what steps would be necessary to implement them.

Lesson Resources for the Summary/Wrap-Up

- Examples of Best Practices Regarding Data Security

FERPA/HIPAA Quiz

This quiz is designed to test your knowledge of the Family Educational Rights and Privacy Act (FERPA) and the Health Information Portability and Accountability Act (HIPAA). Take this quiz at the beginning of the workshop and record your answers in the first column, labeled *Pre*. As you work through the workshop activities, you may learn additional information. Record any changes to your answers in the second column, labeled *Post*.

Put "T" for *True* or "F" for *False* next to each statement.

Pre	*Post*	
_____	_____	1. Schools must provide a parent with an opportunity to inspect and review his or her child's education records within 60 days of receipt of a request.
_____	_____	2. Schools must individually notify parents of their FERPA rights by mail.
_____	_____	3. When a student turns 18 years old and the rights under FERPA transfer from the parent to the student, the school must obtain consent from the student in order to disclose grades and other education records to the parents.
_____	_____	4. In a legal separation or divorce situation, both parents have the right to gain access to the student's education records.
_____	_____	5. A school may designate and disclose any information on a student as "directory information," as long as the school notifies parents and provides them with an opportunity to opt out.
_____	_____	6. Teachers may post grades by student name or social security number.
_____	_____	7. To be considered an "education record," information must be maintained in the student's cumulative or permanent folder.
_____	_____	8. When a student transfers to a new school, the former school is required to send the student's education records to the new school.
_____	_____	9. A parent of a former student has the same right to inspect and review the student's education records as a parent of a student currently attending the school.
_____	_____	10. Schools are required by FERPA to maintain a student's transcript for 5 years.
_____	_____	11. School nurse records are not subject to FERPA, but are subject to the HIPAA Privacy Rule.
_____	_____	12. The disclosure of student immunization information to an outside agency such as a state health department is governed by FERPA, not HIPAA.
_____	_____	13. Records created and maintained by a school resource officer or law enforcement unit are not subject to FERPA.
_____	_____	14. FERPA grants parents the right to have a copy of any education record.
		15. The following would be an acceptable release of information without the parent's consent:
_____	_____	a. To the state department of education in relation to an audit or evaluation of state-funded education program
_____	_____	b. To the student
_____	_____	c. To any school official within the school district
_____	_____	d. To potential employers or honor organizations attempting to verify grades, class rank
_____	_____	e. To the local newspaper, regarding the final results of a student disciplinary hearing
_____	_____	f. To a college at which the student intends to enroll, and the request is for the student's GPA
_____	_____	16. Medical records that are exempt from FERPA's definition of education records are also exempt from coverage by HIPAA.

Source: Adapted from "A FERPA Final Exam" available on the website of the American Association of Collegiate Registrars and Admissions Officers (AACRAO). Used with permission.

Guide to Confidentiality

Governing Legislation

- FERPA (Family Educational Rights and Privacy Act)
  - Protects the privacy of student education records. Applies to all schools that receive funds under an applicable program of the U.S. Department of Education.
  - Access to overview: http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html
- HIPAA (Health Insurance Portability and Accountability Act)
  - Created to improve health insurance portability, prevent health care fraud and misuse, simplify health care administration, and protect the privacy of an individual's health information
  - Applies to schools as providers of health insurance for staff
- Education records protected by FERPA are exempt from the HIPAA privacy rule.

Legislative Facts

- FERPA applies to students' education records, including health records maintained by the school or a party acting for the school.
- FERPA requires the consent of parents or eligible students (i.e., students who have reached 18 years of age or are attending a post-secondary institution at any age) before personally identifiable information from education records is disclosed. There are exceptions to this general consent rule, such as the disclosure of directory information, should parents object.
- Schools must annually notify parents and eligible students of their rights under FERPA. A model notification may be found at http://www.ed.gov/policy/gen/guid/fpco/ferpa/lea-officials.html
- State confidentiality laws and regulations may be more stringent than federal rules (e.g., Ohio).

Confidential Data Elements

These data elements can be released only under certain conditions. Become familiar with who is allowed access to this confidential information, and the uses for which access is allowed.

Student

- Social Security Number
- Student health information
- Discipline information (infractions, outcomes, etc.)
- State-assigned student ID
- Lunch status (free or reduced lunch)
- Socioeconomic status
- Title I status
- IEP status and details
- Exceptionality
- Individual assessment results and course grades
- Migrant status, homeless status
- Medicaid status
- Other data elements parents may request to exclude from directory

Guide to Confidentiality (continued)

Staff

- Social Security Number
- Health information
- Other contract issues

Other Issues to Be Addressed

- Avoid making public any reports in which confidential information is implicit within the aggregate numbers (e.g., showing that 100 percent of School A students are on free or reduced lunch; publishing the achievement level of the Black students in School B, when there is only one Black student in that school).
- Establish data release procedures and protocols.
- Implement procedures for responding to a data breach.
- Identify parents' opt-out choices and establish procedures to communicate and implement those choices.

Health Records: FERPA and HIPAA

In1996, Congress enacted the Health Insurance Portability and Accountability Act (HIPAA) to ensure continued health insurance coverage to individuals who change jobs, and to establish standards regarding the electronic sharing of health information. For purposes of HIPAA, "covered entities" include health plans, health care clearinghouses, and health care providers that transmit health information in electronic form in connection with covered transactions (45 CFR 160.103).

The interaction of FERPA and HIPAA as they apply to schools is somewhat complex. Examples follow:

- Schools and school systems that provide health care services to students may qualify as covered entities under HIPAA.
- The HIPAA Privacy Rule excludes information considered to be education records under FERPA from HIPAA privacy requirements. This includes student health records and immunization records maintained by an education agency or institution, or its representative; as education records subject to FERPA, these files are not subject to HIPAA privacy requirements.
- School nurse or other health records maintained on students receiving services under the Individuals with Disabilities Education Act (IDEA) are considered to be education records and are also subject to that Act's confidentiality provisions. These records are also subject to FERPA and not to the HIPAA Privacy Rule.
- Nevertheless, HIPAA's final rules (December 2000) state that "the educational institution or agency that employs a school nurse is subject to our (HIPAA) regulation if the school nurse or the school engages in a HIPAA transaction" (defined elsewhere as "the transmission of information between two parties to carry out financial or administrative activities related to health care"), including submitting claims. However, consent must still be secured under FERPA before the records are disclosed.

For more information on the intersection of HIPAA and FERPA, see *Health and Healthcare in School*s, "The Impact of FERPA and HIPAA on Privacy Protections for Health Information at School: Questions from Readers" (2003, Volume 4, Number 4) at http://www.healthinschools.org/ejournal/2003/privacy.htm.

Source: Adapted from the Forum Guide to the Privacy of Student Information: A Resource for Schools, National Forum on Education Statistics, 2006.

FERPA/HIPAA Quiz Answer Key

T=True; F=False

F	1. Schools must provide a parent with an opportunity to inspect and review his or her child's education records within 60 days of receipt of a request.	*FERPA requires that educational agencies and institutions comply with a parent's request to inspect and review education records within a reasonable period of time, but not longer than 45 days after receiving the request. See 34 CFR § 99.10(b). Some states require that schools provide parents with access to education records in less than 45 days, and some school districts may have their own requirements.*
F	2. Schools must individually notify parents of their FERPA rights by mail.	*Schools are not required to mail to each parent the required FERPA notification, but they must "provide this notice by any means that are reasonably likely to inform the parents or eligible students of their rights." See 34 CFR § 99.7(b). This may include website notices, inserting the notice in the registration package, or printing the notice in the local or school newspaper.*
F	3. When a student turns 18 years old and the rights under FERPA transfer from the parent to the student, the school must obtain consent from the student in order to disclose grades and other education records to the parents.	*When a student turns 18 years old—or enters college at any age—he or she becomes an "eligible student" and the rights transfer from the parents to the student at that time. However, a school is permitted to disclose any information from a student's education records to the parent if one or both of the parents claim the student as a dependent for IRS tax purposes. See 34 CFR § 99.31(a)(8).*
T	4. In a legal separation or divorce situation, both parents have the right to gain access to the student's education records.	*FERPA provides rights to either parent, regardless of custody, unless the school has been provided with evidence that there is a court order, state statute, or legally binding document relating to such matters as divorce, separation, or custody that specifically revokes these rights. See 34 CFR § 99.4.*
F	5. A school may designate and disclose any information on a student as "directory information," as long as the school notifies parents and provides them with an opportunity to opt out.	*A school may only designate "directory information" items about a student that would not generally be considered harmful or an invasion of privacy if disclosed. (See the definition of "directory information" in 34 CFR § 99.3 for examples of the type of information that may be included.) Information such as a student's social security number or special education status may not be designated as "directory information."*
F	6. Teachers may post grades by student name or social security number.	*A student's grades may only be publicly posted by a randomly assigned code or number that is known only to the student (and parent) and the teacher.*

FERPA/HIPAA QUIZ ANSWER KEY (continued)

F	7. To be considered an "education record," information must be maintained in the student's cumulative or permanent folder.	*The terms "cumulative folder" and "permanent folder" do not appear in FERPA. The term "education record" is broadly defined in FERPA as any record that is (1) directly related to a student and (2) maintained by an educational agency or institution or by a party acting for the agency or institution.*
F	8. When a student transfers to a new school, the former school is required to send the student's education records to the new school.	*While FERPA permits the transfer of education records, it does not require schools to transfer records to third parties. Rather, it permits disclosures to officials of another school, school system, or post-secondary institution where the student seeks or intends to enroll. (However, please note that the No Child Left Behind Act of 2001 requires that states have in place a procedure for transferring a student's disciplinary records. You should check with your state department of education for information on this requirement.)*
T/F	9. A parent of a former student has the same right to inspect and review the student's education records as a parent of a student currently attending the school.	*Generally, this is true. However, if a student has either turned 18 or entered a post-secondary institution, the rights under FERPA have transferred to the student. Only if the student is still a minor and is not yet attending a post-secondary institution would the parent have a right under FERPA to have access to the student's education records. If the student is still a dependent for tax purposes, the school may disclose information to the parent without the student's consent.*
F	10. Schools are required by FERPA to maintain a student's transcript for 5 years.	*FERPA does not require that education records be maintained for any specific period of time and does not generally prohibit the destruction of education records. There may be other requirements for retention of records that schools must follow. However, FERPA does prohibit a school from destroying education records if there is an outstanding request by a parent or eligible student to inspect and review the education records.*
F	11. School nurse records are not subject to FERPA but are subject to the HIPAA Privacy Rule.	*School nurse records are subject to FERPA because they are "education records." Education records, including individually identifiable health information contained in such records that are subject to FERPA, are specifically exempt from the Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy Rule. The reason for this exemption is that Congress, through FERPA, previously addressed how education records should be protected.*
T	12. The disclosure of student immunization information to an outside agency such as a state health department is governed by FERPA, not HIPAA.	*School officials must comply with FERPA in releasing immunization records and other health records to outside local and state health authorities. Generally, parents must provide consent before such information is released. FERPA does permit disclosure of education records to appropriate officials in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of the student or other persons. See 34 CFR § 99.31(a)(10) and § 99.36.*

FERPA/HIPAA QUIZ ANSWER KEY (continued)

T/F	13. Records created and maintained by a school resource officer or law enforcement unit are not subject to FERPA.	*Records of a school's law enforcement unit are not subject to FERPA if they are (1) created by the law enforcement unit; (2) created for a law enforcement purpose; and (3) maintained by the law enforcement unit. A "law enforcement unit" can be any individual, office, department, division, or other component of the educational agency or institution that is officially authorized or designated by the agency or institution to enforce laws or maintain the physical security and safety of the school. See 34 CFR § 99.8. The answer could be either T or F because the records created and maintained by the unit must be maintained for a "law enforcement purpose." If the records are created and maintained for disciplinary purposes, for example, they are subject to FERPA.*
T/F	14. FERPA grants parents the right to have a copy of any education record.	*If circumstances effectively prevent a parent from exercising the right to inspect and review the student's education records (such as when the parent no longer lives in commuting distance), then the school shall provide the parent with a copy of the records requested or make other arrangements for the parent to inspect and review the requested records. See 34 CFR § 99.10(d).*
	15. The following would be an acceptable release of information without the parent's consent.	
T	a. To the state department of education in relation to an audit or evaluation of state-funded education program	*Schools may disclose information to state and local educational authorities in connection with an audit or evaluation of federal or state supported education programs or for the enforcement of or compliance with federal legal requirements that relate to those programs. See 34 CFR § 99.31(a)(3) and § 99.35.*
T	b. To the student	*Schools may have a policy of disclosing education records to a student who is not an eligible student, without consent of the parents. See 34 CFR § 99.5(b).*
F	c. To any school official within the school district	*Only school officials with a legitimate educational interest may have access to a student's education records. Schools are required to include in the annual notice of FERPA rights the criteria for whom they consider to be a "school official" and what it considers to be a "legitimate educational interest." (Check the Family Policy Compliance Office's website for a model notice with suggested language: http://www.ed.gov/policy/gen/guid/fpco/ferpa/lea-officials.html.)*
F	d. To potential employers or honor organizations attempting to verify grades, class rank	*These entities are not listed in the FERPA regulations (§ 99.31) as entities to which information may be disclosed without consent. Therefore, parents or eligible students must provide consent for this disclosure.*

FERPA/HIPAA QUIZ ANSWER KEY (continued)

F	e. To the local newspaper, regarding the final results of a student disciplinary hearing	*While there are some types of disciplinary disclosures that may be made public at the college level, at the K-12 level no disciplinary information may be publicly disclosed without consent.*
T	f. To a college at which the student intends to enroll, and the request is for the student's GPA	*If the student is seeking or intending to enroll in the college, information from the student's education records may be disclosed to the college (§ 99.34).*
T	16. Records subject to FERPA are not subject to the HIPAA Privacy Rule.	*Under FERPA, certain types of treatment records on a student who is 18 years or older or who is attending a postsecondary institution are exempt from the definition of "education records," such as records that that are* • *made or maintained by a physician or other recognized medical professional;* • *made, maintained, or used only in connection with treatment of the student; and* • *disclosed only to individuals providing the treatment.* *However, if these treatment records are used for purposes other than providing treatment to the student or are made available to persons other than those providing treatment, they would then be considered to be education records. These types of records are also exempt from HIPAA's Privacy Rule. For students under the age of 18, there is no distinction between "medical" or "treatment" records and "education records." Thus, a K-12 student's health records maintained by an educational agency or institution subject to FERPA, including records maintained by a school nurse, would generally be education records subject to FERPA because the are (1) directly related to a student; (2) maintained by an educational agency or institution, or a party acting for the agency or institution; and (3) are not excluded from the definition as treatment records.*

Source: U.S. Department of Education Family Policy Compliance Office.

Examples of Data Security Best Practices

General Practices

- Password issues
  - Keep passwords strictly confidential. Do not share them with others.
  - Change passwords frequently: every 30 to 60 days.
  - Create passwords containing both numbers and letters and using upper and lower case (e.g., t6UG88).
  - Do not use passwords identifying a personal fact about yourself (e.g., birthdate, child's name).
  - Learn your password. If you must write it down, keep the information stored somewhere private and secure.
- Physical security
  - Make it possible to lock desks, offices, and filing cabinets.
  - Emphasize the importance of physical security practices in all data training.
- Send personally identifiable information from education records by email only after using an encryption program or some other means of protecting the integrity of the information.
- Put confidential information into a locked cabinet or drawer when leaving the area where it is in use.
- Have an acceptable-use policy in place regarding both Internet access and confidential data files and establish a procedure for monitoring use.
- Hold all conversations regarding confidential information in nonpublic areas.
- Do not allow confidential data to be worked on at home.
- Institute confidentiality agreements with vendors, employees, and service providers.
- Include acknowledgement of security processes in all appropriate job descriptions.
- Develop and disseminate written security practices.
- Provide ongoing training regarding confidentiality issues and the sensitivity of data.
- When recycling computers, pull or reformat hard drives.

Technical Practices

- Implement an authentication system for logging on to computers and into computer networks. Include an automated prompt to change passwords frequently.
- Set reasonable timeout intervals on computers (5 to 15 minutes), so that after the specified interval of inactivity, the machine will log off the network and its screen will lock, requiring a password to re-access.
- Make sure that wireless networks are secure.
- Implement an appropriate backup system.
- Establish an audit-trail mechanism for identifying users who enter or change critical data.
- Update anti-virus and anti-spyware software frequently.
- Establish plans for reacting to data security breaches.
- When deleting confidential materials, use overwriting software to be sure data are completely deleted.

Part II:

Data Steward/ Coordinator Lessons

Part II:
Data Steward/Coordinator Lessons

Purpose

- To provide detailed information about the responsibilities of a Data Steward or Coordinator
- To provide opportunities for Local Education Agency (LEA) staff to plan quality data initiatives for their LEAs and to produce materials and documents to support those initiatives

Participants

- Data Steward/Coordinator
- Any administrator or staff member with responsibility for supervising some aspect of data quality

These lessons are likely to involve staff from multiple Local Education Agencies (LEAs). Some LEAs will assign the roles and responsibilities of a Data Steward/Coordinator to a single individual; others will divide the responsibilities among several existing positions.

Lessons

- Data Steward/Coordinator Responsibilities
- Data Flow and Data Cycles
- Data Entry Issues
- Creating and Using a Data Dictionary
- Developing a Data Calendar
- Types of Data Errors
- Validating and Auditing Data
- Communication

Recommended Delivery Time per Lesson

1-3 hours

Lesson:
Data Steward/Coordinator Responsibilities

Participants:
Data Steward/Coordinator

Description
This module is a detailed introduction to the roles and responsibilities of a Data Steward/Coordinator; it explores the relationships between the Data Steward/Coordinator and other district personnel with regard to data quality.

Objectives
- Define the roles and responsibilities of a Data Steward/Coordinator as they are actually assigned in each participant's district.
- Demonstrate understanding of the terms used in defining those responsibilities.

Instructor Preparation
- Read the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource*** to identify the roles of the key players in achieving quality data.
- Make available a printed or electronic copy of the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource*** for each participant to read.
- Make a single copy of each of the following learning resources (which can be found on the pages following the lesson plan) for each participant:
  - Quality Data: The Role of the Data Steward or Coordinator
  - Data Steward/Coordinator Responsibility Assignments

Essential Learnings
- Data Steward/Coordinator responsibilities may be divided among several people within a district or school building. The importance of communication among those staff members cannot be overemphasized, as their responsibilities overlap and staff members interact with one another in many ways.
- Communication skills are an important part of a Data Steward/Coordinator's tool kit. The Data Steward/Coordinator must communicate effectively with many Local Education Agency (LEA) staff members across all levels of the organization both in advocating for the importance of quality data and in developing and overseeing the guidelines and procedures for data entry, error correction, timeline development, and project management.
- The Data Steward/Coordinator plays a key leadership role in improving district and school policies and procedures to facilitate the improvement of data quality.

Introduction

Item

- Have participants introduce themselves and describe in some detail their responsibilities in their respective schools or districts.
- Identify the seven key players with regard to quality data listed in the ***Forum Guide to Building a Culture of Quality Data: A School & District Resource***.

Lesson Resources for the Introduction

- ***Forum Guide to Building a Culture of Quality Data: A Resource for Schools & Districts***
- The questions under the "Things to Think About" section of Quality Data: The Role of the Data Steward or Coordinator

Activities and Instruction

Item

- Have participants read ***Quality Data: The Role of the Data Steward or Coordinator***. Facilitate discussion around two questions:
  - Which of the items listed under "To Do" are most important in producing quality data in the district?
  - Which of those items does the district already do well and which need to be addressed?
- Have participants complete the Data Steward/Coordinator Responsibility Assignments sheet and discuss the results in small groups.
- Have each group report on the discussion, covering challenges identified, solutions discussed, and questions addressed to the entire group.

Lesson Resources for Activities and Instruction

- Quality Data: The Role of the Data Steward or Coordinator
- Data Steward/Coordinator Responsibility Assignments

Supplementary Resources for Activities and Instruction

Discussion starter:

Your district gets a new superintendent who is a big believer in using data for decisionmaking. In her first meeting with the leadership team, she expresses some skepticism regarding the accuracy of the data. What things would you say to convince her that she can rely on the results of her data queries for making decisions?

Summary/Wrap-Up

Item

- Have participants write a newspaper ad to recruit applicants for the Data Steward/Coordinator position in their district. As an alternative, participants could write a complete job description for the Data Steward/Coordinator position using either the Job Description Form or their own district's job description format.
- The Data Steward/Coordinator Responsibility Assignments checklist used in this lesson is also used during the Communication lesson. If the Communication lesson is being given later, either notify participants that they should hold on to the Data Steward/Coordinator Responsibility Assignments checklist to bring to that training session, or collect the checklists to distribute at that time.
- Make the general statement that, throughout the training, much of the work that will be done in one session may be used for activities in later sessions. Furthermore, many of the handouts can form the basis of a detailed plan for fulfill-

ing the responsibilities of the Data Steward/Coordinator for their LEA. Therefore participants should keep all the work they do and bring the sheets they accumulate to each session.

Supplementary Resources for the Summary/Wrap-Up

- Job Description Form
- District's job description format

Quality Data: The Role of the Data Steward or Coordinator

Responsibility

You serve your administrator by ensuring that the statistical information reviewed by senior staff represents data that have been entered accurately and collected systematically. Furthermore, you enhance the information reporting process through staff development and collaboration with the various offices and programs responsible for producing data and information.

Things to Think About

- Does the information reviewed by your superintendent and senior staff represent facts based on accurate data from programs and offices?
- Does everyone in your school district understand how data are used to benefit the instructional program and provide funds for services?
- Are data collected systematically in the school district?
- Are the staff responsible for entering data trained to do an effective job?
- Is there a process in place that allows "end-users" to request or modify reports?
- Are you and the information technology (IT) director operating collaboratively?

Things to Do

- Coordinate the data collection process.
- Provide professional development for staff members leading toward a Culture of Quality Data in the school. The sessions might include
  - demonstrations that incorporate hands-on training, enabling data entry personnel to become used to the actual data entry screens;
  - examples that actually reflect situations that will be encountered;
  - handbooks or guidebooks, with copies of data entry screens, systematic instructions, and the rationale for entering the data;
  - descriptions of the procedures for obtaining assistance (e.g., help-desk phone number, online and/or e-mail query process); and
  - copies of the reports created from the data, enabling trainees who enter information to have a sense of how their work affects the operation of the school.
- Resolve discrepancies in information before reports are forwarded to senior staff.
- Develop a process that allows staff to request new reports or modifications of existing reports.
- Collaborate with the district technology director or coordinator to enhance the ability of computer programs to determine effective editing procedures for reports and other information.

Outcomes (What's in it for me?)

By helping staff members understand the importance of data entry and data collection, and see the process that leads to data-driven decisions, you are directly involved in courses of action that lead toward improved student achievement and increased services provided to the district and schools.

Source: Forum Guide to Building a Culture of Quality Data: A Resource for Schools & Districts

Data Steward/Coordinator Responsibility Assignments

District: _____

For each Responsibility item, indicate with a check mark in the Self column those items for which you expect to be responsible within your district. If others will be responsible for an item, put their names or positions in the Other Staff Responsible box for the item. In the Comments column, indicate any ambiguity or lack of clarity concerning responsibility for an item or make any other comments.

Responsibility	Self	Other Staff Responsible	Comments
Coordinates the data collection process			
Provides professional development for staff members leading toward a culture of quality data			
Resolves discrepancies in information before reports are forwarded to senior staff			
Develops a process that allows staff to request new reports or modifications of existing reports			
Collaborates with curriculum coordinator/supervisor and staff from other educational program areas (special education, assessment, etc.)			
Collaborates with technology director to enhance the ability of computer programs to determine effective editing procedures for reports and other information			
Establishes data audit procedures			
Develops calendar for data collection and reporting			
Implements data needs analysis			
Develops and disseminate data dictionary			
Compiles business rules			
Develops and disseminates data entry standards			

Discussion Questions:

Do you see any challenges with the way responsibilities are assigned in your district? What can you do to minimize those challenges?

What is the chain of command within your district for making decisions about data entry procedures, business rules, data standards, and other data-related issues?

Lesson: Data Flow and Data Cycles

Participants:

Data Steward/Coordinator

Description

This lesson introduces the concept and components of data flow and data cycles: the processes of creating, reporting, and applying data in schools, and the repetition of these processes from year to year. Participants will discuss the emerging importance of data in schools, identify the many sources of school data, and develop both a complete district-wide data flow diagram and an understanding of where in that process incorrect data can be identified and corrected.

Objectives

- Demonstrate an understanding of the steps involved when schools create and apply data.
- Identify the school personnel involved in each step of the data-flow process and their interdependence.
- Describe the role of the Data Steward/Coordinator in the flow of data.
- Identify the multiple data cycles in the school environment.

Instructor Preparation

- The Data in Schools form will be the basis of an exercise in **Developing a Data Calendar**. Decide whether you will collect the forms for later distribution or notify participants that the forms will be needed later.
- Make a single copy of the following lesson resources (which can be found on the pages following the lesson plan) for each participant:
  - Data in Schools
  - The Flow of Education Data
  - Data Production and Consumption Cycle

Essential Learnings

- Optimizing each of the four characteristics of quality data (accuracy, security, utility, and timeliness) requires understanding how data flows through the various Local Education Agency (LEA) systems, from data entry to reporting, and recognizing the many cycles involving data and report production.
- *Data flow* refers to the progression of data up through successive administrative levels.
- *Data cycle* refers to the recurring timeline for the production, application, and reporting of data.
- There are multiple data flows and data cycles in the production of data in an LEA.

Introduction

Item

- Discuss the meaning of data flow (the movement of data through an LEA and on up to responsible state and federal government agencies) and data cycle (the repeating process of entering, auditing, correcting, reporting, and applying data necessary to produce reports and guide decisions). Use the production of particular data elements as examples.

Lesson Resources for the Introduction

- Discussion starters
  - Describe the flow of data for enrolling a student and reporting that student's state assessment score.
  - Describe the yearly cycle for reporting attendance data to the state.

Supplementary Resources for the Introduction

- The Flow of Education Data
- Data Production and Consumption Cycle

Activities and Instruction

Item

- Using the **Data in Schools** handout, have the group develop a list of all the sources of data that can be found in a district. For each source, list the ways the data are used or reported and identify who is involved in creating and applying the data.
- Starting with the list of data developed on the **Data in Schools** handout, and using **The Flow of Education Data** diagram as a model, develop, with the group as a whole, a data flow diagram for several different data items, including the major steps of production and application.
- For each of the steps, make a list of the school personnel responsible or involved.
- Indicate where errors can be created or introduced in the flow of data.
- Indicate where errors could be identified and corrected in the flow of data.

Lesson Resources for Activities and Instruction

- Data in Schools
- The Flow of Education Data

Summary/Wrap-Up

Item

- Discuss the **Data Production and Consumption Cycle** diagram, comparing it to the different diagrams generated in the class.

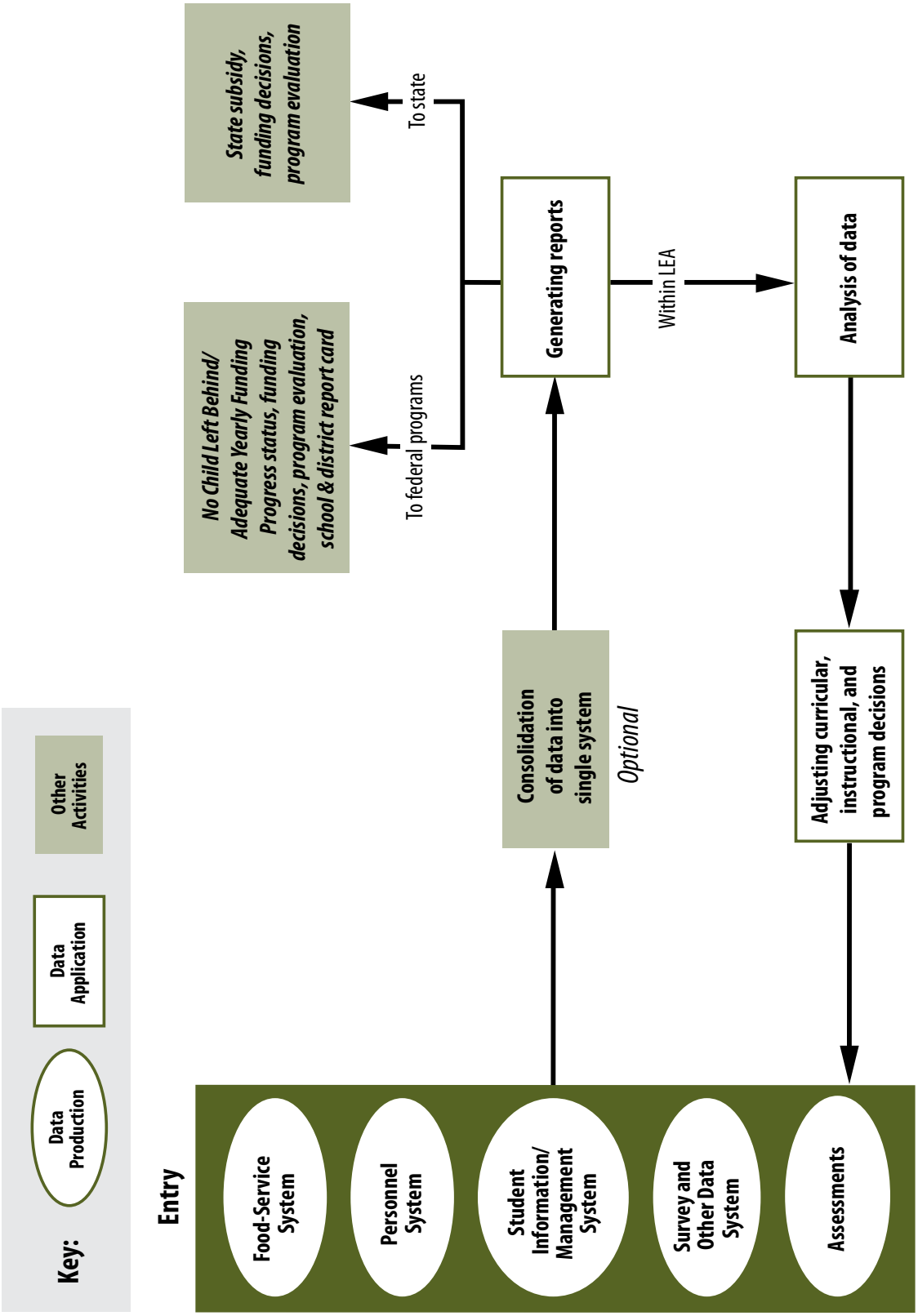
Lesson Resources for the Summary/Wrap-Up

- Data Production and Consumption Cycle

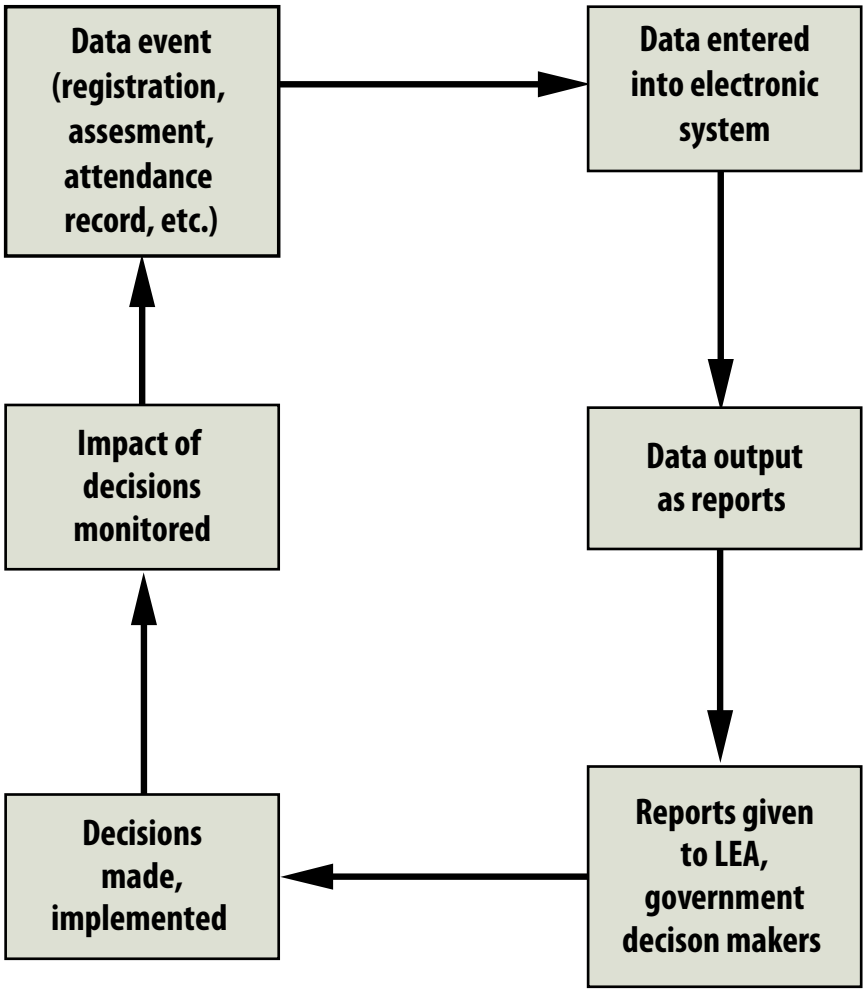
Data in Schools

Data Source	Who Enters Data	How Data Are Used	Who Uses These Data

THE FLOW OF EDUCATION DATA



DATA PRODUCTION AND CONSUMPTION CYCLE



Lesson: Data Entry Issues

Participants:

Data Steward/Coordinator

Description

This lesson describes both the many factors that contribute to inaccurate data entry and various approaches available to prevent such errors.

Objectives

- Identify ergonomic, furniture placement, and other physical environment issues related to accurate and secure data entry and the solutions to data entry problems.
- Identify different types of business rules for facilitating the production of high-quality data.
- Develop useful and effective business rules for facilitating the production of high-quality data.
- Explain the importance of data-error checking and how it can be accomplished during data entry.

Instructor Preparation

- Understand the differences between and similarities of
  - Data entry standards
  - Data entry guidelines
  - Data entry procedures
  - Business rules
- Have a single copy of the following lesson resources (which can be found on the pages following the lesson plan) for each participant:
  - The Flow of Education Data
  - Quality Data Culture Concept Map
  - Data Entry Practices Assessment
  - Sample Business Rules

Essential Learnings

- Data entry provides the first opportunity to check for and correct data errors.
- Many tools are helpful in assuring staff who enter data that the data are accurate and timely:
  - Data dictionary
  - Data entry standards
  - Data entry guidelines
  - Data entry procedures
  - Business Rules
- Security issues associated with data entry need to be addressed both with careful planning and ongoing professional development for all staff entering data.

Introduction

Item

- Review **The Flow of Education Dat**a handout.
- Review the **Quality Data Culture Concept Map**, focusing on the Components of Quality Data Culture.

Lesson Resources for the Introduction

- The Flow of Education Data (also used in the ***Classifying Education Data*** lesson)
- Quality Data Culture Concept Map (also used in the ***What is a Culture of Quality Data?*** lesson)

Activities and Instruction

Item

- Have participants complete the **Data Entry Practices Assessment** sheet and discuss which items are implemented in their schools and districts.
- Define "business rule." Go over the **Sample Business Rules** document, pointing out the several types of rules.
- As a group develop five or six business rules applying to data entry and five or six applying to the data process (correcting errors, establishing authority or responsibility, etc.).

Lesson Resources for Activities and Instruction

- Data Entry Practices Assessment
- Sample Business Rules

Summary/Wrap-Up

Item

- From the **Data Entry Practices Assessment** filled out previously in this lesson, have each participant list the top three improvements he/she would recommend making to his/her school's or district's data entry practices. For each recommendation, have participants list the steps needed to make the improvement.
- Facilitate a discussion of participants' reasons for choosing their top priorities.

Lesson Resources for the Summary/Wrap-Up

- Data Entry Practices Assessment

Supplementary Resources for the Summary/Wrap-Up

- Examples of Best Practices for Data Entry
- ***Improving Data Quality for Title I Standards, Assessments, and Accountability Reporting: Guidelines for States, LEAs, and Schools***

Data Entry Practices Assessment

District: _____

For each practice, put checkmarks indicating which quality data components will be affected by having the practice in place in a school or district. Please note that the utility component has been replaced with Completeness, as the utility of data is determined at other times in the production of quality data.

Physical Environment

Practice	Accuracy	Security	Timeliness	Completeness
Position work space to minimize visual, traffic, and other distractions				
Position desks to maximize privacy of materials on work surfaces				
Make sure computer screens do not face public areas				
Provide means for securing computer access (e.g., requiring passwords) and paper forms (e.g., providing locking file cabinets)				

Staff-Level Practices and Procedures

Practice	Accuracy	Security	Timeliness	Completeness
Maintain appropriate and up-to-date software and hardware				
Set aside certain times to focus on critical data entry				
Maintain access to and understanding of documentation regarding data entry and data correction procedures, including protocols for handling exceptions (e.g., parent won't provide complete information)				
Include basic edit checks in software				
Check data against authoritative source of data (e.g., original paper forms)				
Provide data entry reference sheet based on data dictionary				
Provide detailed documentation specific to software				
Train data entry staff regarding procedures, timelines, etc.				

Data Entry Practices Assessment (continued)

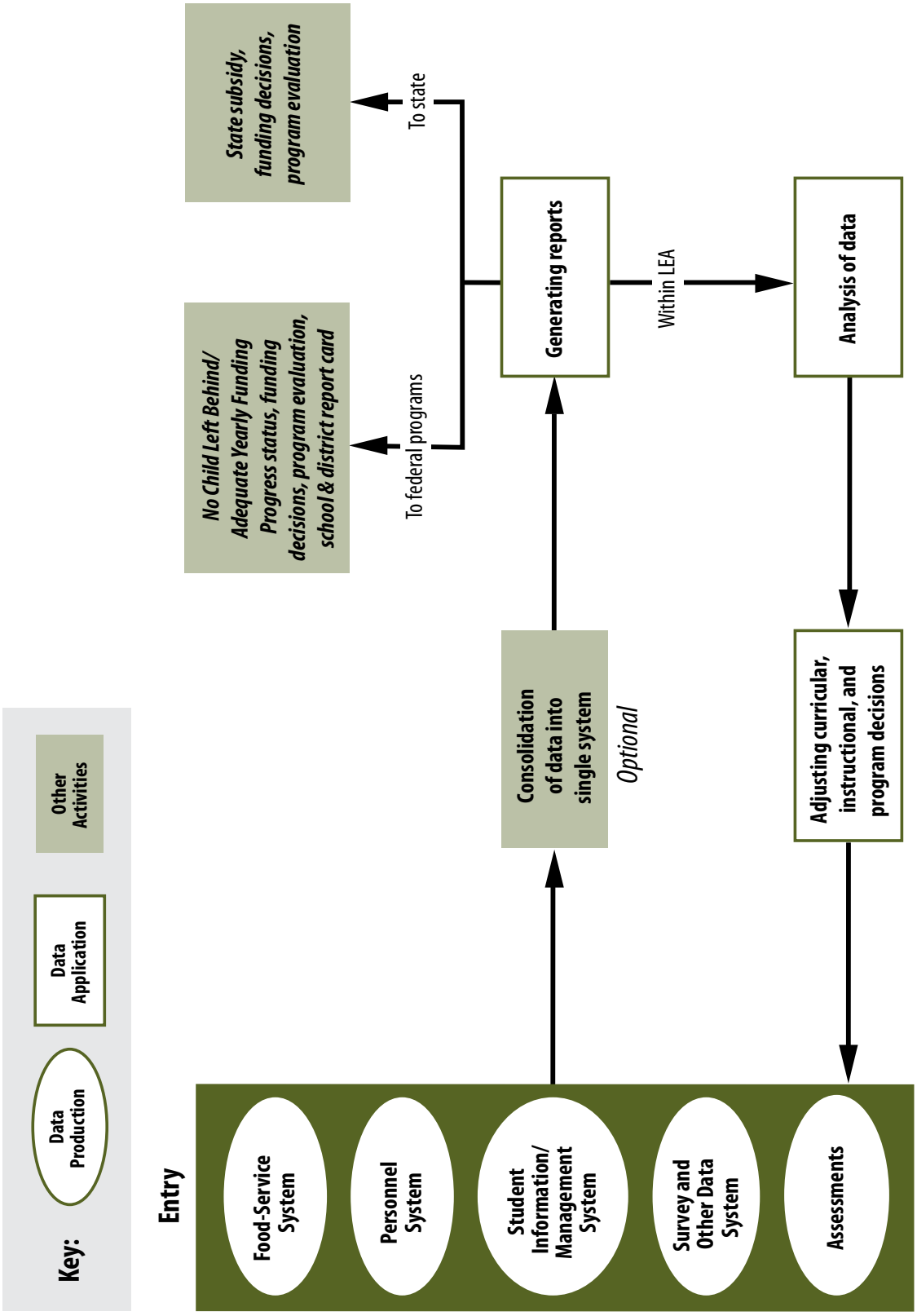
School-/District-Level Practices and Procedures

Practice	Accuracy	Security	Timeliness	Completeness
Establish data entry timeline				
Have clear and frequent communication and expectations w/in building and district				
Operate Help Desk—Technology and Content				
Use "Team" approach/effort for collection/reporting				
Maintain leadership commitment to timeline, project plan, and resource allocation for data entry				
Provide ongoing professional development of office staff to ensure understanding of policies and procedures, and of the impact of data entry on data quality				
Run periodic data verification reports				
Review business rules				
Provide ongoing training (best practices, data-elements updates, timelines, procedure changes) to all appropriate staff				
Provide a supportive and safe environment (assign mentors—at whatever appropriate level) for asking questions and resolving issues				
Provide periodic review of business processes and procedures				
Establish a procedure for planning continuous improvement				

Sample Business Rules

- Students enrolling in kindergarten must be five (5) years old by September 30 of the school year.
- If student grade level is X, student must be between the ages of A and B.
- Before a student can receive a special education evaluation or special education testing, the student's parents must have filled out and signed the appropriate permission form.
- A student must have a 2.0 cumulative GPA to participate in sports.
- Enrollment by grade = X Carnegie credits earned.
- Exam X cannot be taken before Grade Level Y.
- When staff person is no longer in the district, do not enter him/her into the personnel or scheduling system for the new year.
- When a staff person is no longer in the district, enter the ending date and the ending reason into the personnel or scheduling system.
- When a student withdraws, inactivate that student's record in the student database.
- When a student withdraws, enter the withdrawal date in the student database and the withdrawal report form.

THE FLOW OF EDUCATION DATA



QUALITY DATA CULTURE CONCEPT MAP

Lesson: Creating and Using a Data Dictionary

Participants:

Data Steward/Coordinator

Description

This lesson introduces the concepts related to creating and/or using a data dictionary.

Objectives

- Be able to define the structure and function of a data dictionary.
- Write useful definitions of data elements.
- Locate useful models of a data dictionary.

Instructor Preparation

- Determine if your state department of education has a data dictionary. If so, determine the URL for accessing it online or download a file to print and distribute to participants.
- Make three copies of the **Data Element Description** form for each participant.
- Make a single copy of the **Data Dictionary Basics** sheet (which can be found on the page following the lesson plan) for each participant.

Essential Learnings

- A data dictionary helps create quality data from the moment of data entry.
- Most states have defined data dictionaries for data that Local Education Agencies (LEAs) are required to report. Having the LEA adopt those standards reduces the time needed to correct errors in reports to and from the state.
- Creating entries for the data dictionary for LEA-specific data elements is time consuming, but saves time in the long run. The process should involve all key players in the LEA.
- Documentation of data entry standards based on the data dictionary that focuses on frequently used data elements should be easily accessible to data entry staff.

Introduction

Item

- Using **Data Dictionary Basics**, discuss the role of a data dictionary in creating quality data:
  - Providing guidance to data entry staff
  - Providing standards for data audits

Lesson Resources for the Introduction

- Data Dictionary Basics

Activities and Instruction

Item

- Using the **Data Element Description** form, have participants fill in three sheets with different data elements, choosing from the following list:
  - Student First Name
  - Student Address
  - Student Lunch Status

  - Student ID
  - Staff First Name
  - Staff Social Security Number
  - Staff Certification
  - Building Name
- Have participants share one or more of their descriptions and discuss some with the group.
- Display samples of print or online data dictionaries OR examine the data dictionary defined by state.
- Discuss usefulness of sample data dictionaries or state data dictionary in providing guidance for LEA staff during data entry.

Lesson Resources for Activities and Instruction

- Data Element Description
- Sample Data Dictionaries (http://www.geocities.com/tablizer/ddsamp.htm)

Supplementary Resources for Activities and Instruction

- State data dictionary
- NCES handbooks online (http://nces.ed.gov/programs/handbook/)
- *Career and Technical Education Information System (CTEIS) Data Code Manual* (Michigan) (http://www.michigan.gov/mdcd/0,1607,7-122-1680_2629_2726-52924--,00.html)
- Other sample data dictionaries
- *Writing Effective Data Definitions*

Summary/Wrap-Up

Item

- Referring to the **Data Dictionary Basics** sheet, have each participant list two or three data elements he/she believes are specific to his/her LEA and that would be important to define in a data dictionary.
- Facilitate a discussion in which the participants talk about what decisions or reports would be affected if the data elements they identified were to be entered in an inconsistent manner into LEA data systems.
- Facilitate a discussion of how many LEA-specific data elements might need to be developed by LEA staff.

Learning Resources for the Summary/Wrap-Up

- Data Dictionary Basics

Data Dictionary Basics

Purpose of Data Dictionary

- Standardize format (length, code), definition, and business rules of data elements that align with state, federal, and local requirements.
- Facilitate the appropriate use/collection of data.
- Support the collection and reporting of accurate, consistent, timely data for decisionmaking and conduct of educational and related activities.
- Support and inform the decision process for selecting software packages (such as an SIS).
- Prevent duplicate collection of data elements.

Structure of Data Dictionary

Items	Example of an Entry
Data element name	*Birthdate*
Definition	*Month, day, and year student born*
Format (e.g., text vs. numeric)	*Numeric (04081974)*
Size	*Eight positions*
Authoritative source (system or form)	*Birth certificate*
Usage	*Age calculation* *"Identifier": Assigning a Unique ID* *Program Eligibility*
Confidentiality source	*State legislation*
Authority to collect (e.g., legislation)	*No—Directory Info*
Business rules	
Valid codes	*Relative to current date (e.g., KDG > 5 years, but <22)*
Code range	*Grade level vs. age—What is acceptable?*
Referential integrity checks	*Primary and foreign key fields*
Timeline for collection	*At time of enrollment*
Time to report to state agency	*October and year end*
Verification timeline—federal and state	*2 months*
Time to report to USDOE	*Not applicable*
Position responsible/authoritative	*Registration clerk*

Data Element Description

District: _____

Using the following form, write a complete data dictionary entry for any of the following data elements: student first name, student address, student lunch status, staff Social Security Number, student ID.

Items	Entry
Data element name	
Definition	
Format (text vs. numeric)	
Size	
Authoritative source (system or form)	
Usage	
Confidentiality source	
Authority to Collect (e.g., legislation)	
Business Rules	
Valid codes	
Code range	
Referential integrity checks	
Timeline for collection	
Time to report to SEA	
Verification timeline–federal and state	
Time to report to USDOE	
Position responsible/authoritative	
How are data used	

Lesson: Developing a Data Calendar

Participants:

Data Steward/Coordinator

Description

This lesson introduces the purpose of a data calendar and the factors that should be accounted for in creating a data calendar.

Objectives

- Define the role and importance of a well-designed data calendar.
- Develop an effective calendar for data collection and reporting for the district.

Instructor Preparation

- Determine if your state department of education has developed a data calendar. If so, determine the URL for the information or download the appropriate file for printing and/or electronic distribution to participants.
- Create a reference sheet with the URLs for the state data calendar, if one exists, and the Education Data Exchange Network (EDEN)* data calendar and make copies for all participants.
- If you collected the **Data in School** forms at the end of the ***Data Flow and Data Cycles*** lesson, have them ready to distribute to the appropriate participants.
- Make a copy of the following lesson resources (the first two of which can be found on the pages following the lesson plan) for each participant:
  - Collected Data Items
  - Data Calendar Planning Form
  - State data calendar (download from the state department of education)

Essential Learnings

- Developing a Local Education Agency (LEA) data calendar should take into account any state data calendars and the EDEN data calendar.
- Developing a data calendar should take into account not just deadlines, but conflicts with other school events, the amount of time people will need to query data and make corrections, etc.
- Developing a data calendar should be done in consultation with all key staff members who either produce or apply education data.
- District leadership should be aware of the importance of the timely delivery of quality data and the importance of enforcing the data calendar in achieving that delivery.

Introduction

Item

- Describe the factors that should be accounted for in preparing a data calendar:
  - Deadlines for federal, state, and district reports
  - Lead time needed to generate various reports
  - Time frames within which data-based curricular, instructional, and program decisions are made
  - Lead times needed to be sure data required for decisions are up-to-date and accurate

* A set of K-12 statistical reports gathered from state agencies by the U.S. Department of Education.

- Staff involved in entering or correcting data
- Other major events affecting the availability of the staff for data entry, data analysis, or data correction efforts

Activities and Instruction

Item

- Go over the state data calendar (and the EDEN Data Calendar, if you so choose), discussing with participants the pertinent deadlines and the steps and amounts of time involved in meeting those deadlines.
- Have each participant pick one of the data types (defined in the ***Classifying Education Data*** lesson) for which their district collects data. Then, based on the **Data in Schools** form completed in the ***Data Flow and Data Cycles*** lesson, have participants choose one or two sources containing data of that type and fill out the **Collected Data Items** chart.
- Starting with the information each participant developed for the **Collected Data Items** chart, have each fill out the **Data Calendar Planning Form**.
- Using the completed planning form, have participants outline the steps they would take to develop the information they need to create a data calendar. The outline should include questions to be asked of individuals, the order of the steps to be taken, and an estimate of the time required to complete the calendar.

Lesson Resources for Activities and Instruction

- Collected Data Items
- Data Calendar Planning Form (also used in the ***Validating and Auditing Data*** lesson)
- State data calendar (downloaded)

Supplementary Resources for Activities and Instruction

- EDEN Data Calendar
- Sample Data Calendar

Summary/Wrap-Up

Item

- Have participants discuss the obstacles to achieving the timely delivery of data within their schools and districts and what they can do to overcome those obstacles
- Tell participants to bring their **Data Calendar Planning Form** to the workshop on ***Validating and Auditing Data***.

Collected Data Items

Pick one or two data sources that contain one of the data types previously discussed (student learning, demographics, school processes, and perceptions). For each of the sources, list the data items by type and complete the rest of the columns for each item.

Data Source	Data Item	Who Enters Data	Dates Data Entered	How Data Are Used	Who Uses These Data	Reason for Collecting

Data Calendar Planning Form

District: _____

External Reports/Data Submissions Planning

In the first column, create a list of the reports and/or data submissions for which your school or district is responsible. For each item in the list, fill out the remainder of the cells as indicated in the example in the first row.

Report/Submission	Person Responsible for Report/Submission	Report/ Submission Deadline	Data Needed for Report/Submission
State assessment scores	Curriculum Coordinator	June 1	Student ID, Grade Level, District, Building, Math Score, Reading Score

Data Calendar Planning Form (continued)

Curricular Decisionmaking Planning

For each school building in your district, identify appropriate staff and the dates by which major curricular decisions (curriculum assignments, remediation needs, special placements, etc.) are made and data needed to support those decisions.

Building Name	Principal Name	Other Curriculum Staff	Technology Support Staff	Date(s) Info Needed	Data Needed for Decision

Lesson: Types of Data Errors

Participants:

Data Steward/Coordinator

Description

This lesson explores the types of errors commonly found in Local Education Agency (LEA) data and their potential consequences for the organization and its students.

Objectives

- Define and describe types of data errors and problems.
- List possible consequences of inaccurate data.

Instructor Preparation

- Read over the ***Discussion Scenario*** and decide whether to use it for your initial discussion or to have participants use one of the discussion starters listed below.
- Make a copy of each of the following lesson resources (which can be found on the pages following the lesson plan) for each participant.
  - Discussion Scenario
  - Possible Data Errors

Essential Learnings

- Data errors are of many types and not always easy to spot until after a report is generated.
- What seems like an error (for example, a large increase in the number of students enrolled in a building from one year to the next) may not be an error, but the result of changes in the circumstances of the LEA (e.g., the opening of a large tract of houses in the building's attendance area over the previous spring and summer).

Introduction

Item

- Read the **Discussion Scenario**, then facilitate a discussion of one or more of the questions listed on the handout.

Lesson Resources for the Introduction

- Discussion Scenario

Supplementary Resources for the Introduction

- Discussion starters:
  - Give examples of how mistakes enter into a system. Describe a scenario in which a data entry mistake leads to severe consequences for a school or district.
  - Describe the worst data error in your experience. Discuss how you handled the situation and what you could have done better.

Activities and Instruction

Item

- Starting with the examples in **Possible Data Errors**, define and discuss the various types.
  - Inaccurate data
  - Missing data

  - Incomplete data
  - Inconsistent data
  - Outliers
- Have participants come up with further examples of each type of error, as well as examples of errors that may not easily fit one of the types defined.
- Using the **Possible Data Errors** handout, form small groups to discuss and record the possible consequences for the district, for the staff, or for students of each mistake, and the possible procedures that could be followed to make corrections.

Lesson Resources for Activities and Instruction

- Possible Data Errors

Supplementary Resources for Activities and Instruction

- Bad Data
- Bad Data Answer Key

Summary/Wrap-Up

Item

- Have the group as a whole suggest what can be done in the future to prevent some of the errors described.
- Ask participants to bring the **Possible Data Errors** form and the **Data Calendar Planning Form** from the ***Developing a Data Calendar*** lesson to the next session, which will address data validating and auditing.

Discussion Scenario

A report comes back from the state regarding your district's performance on the state assessment this past year. The report indicates that one of the elementary schools has twice as many low-income students as reported last year.

Discuss each of the following questions:

1. What steps, if any, can be taken to determine if this is an error and, if so, how it occurred?
2. Who is responsible for correcting any erroneous data?
3. What steps can be taken to correct any error in the data reported by the district to the state?
4. What are the possible consequences for the school and the district if these data are not corrected?
5. What can be done to ensure that such errors do not happen in the future?
6. How do you document that you have corrected the error?
7. How do you ensure that the data are corrected everywhere they may occur?

Possible Data Errors

Type of Error	Example	Possible Consequences	Possible Correction Procedures
Inaccurate data	Student Information System (SIS) lists every child as Asian		
	Final grades incorrectly assigned in 10th-grade English classes		
Missing data	10 percent of student records have no date of birth		
	Schedule records missing teacher first name and identifier		
	No students identified as learning disabled		
Incomplete data	3 students listed as "Smith, J."		
	Teachers not turning in grades on time		
Inconsistent data	Student gender in one building SIS entered as "F" or "M" while in another building listed as "Female" or "Male"		
	Record for the same person listed as "Jones, Elizabeth" in SIS, "Jones, Beth" on state assessment data, "Jones, Liz" in cafeteria system		
Outliers	Final grade of 122 percent		
	3 scores on district-wide math assessment 30 percent or more below median score, 20 percent or more below next lowest scores		

Possible Data Errors (continued)

Use the spaces below to list other types of errors that may be found in LEA data.

Type of Error	Example	Possible Consequences	Possible Correction Procedures

Lesson: Validating and Auditing Data

Participants:

Data Steward/Coordinator

Description

This lesson introduces the concepts of data validation and auditing, and how they affect data quality. The lesson also structures opportunities to begin planning for an effective data audit process.

Objectives

- Describe the steps involved in validating data.
- Identify the purposes and elements of a data audit.
- Create an outline of a plan for providing data audits.

Instructor Preparation

- Make a copy of the following lesson resources (which can be found on the pages following the lesson plan) for each participant.
  - Basic Data Validating Steps
  - Basic Data Auditing Steps
  - Detailed Data Auditing Steps
  - Data Audit Planning Form
  - Examples of Best Practices Regarding Internal Data Audits

Essential Learnings

- The earlier in the process of entering and producing data that an error is spotted, the less time is needed to correct the error and the fewer the data systems that have to be corrected. Having data entry staff check for data entry mistakes (i.e., validating data) is an important first step in producing quality data.
- Auditing data multiple times as data move through a school or district system facilitates identifying where in the data flow an error is created.
- End users such as the state department of education and the principals and teachers in your Local Education Agency (LEA) will perform a data audit function by indicating inconsistencies among reports they have received and their previous knowledge of the LEA.
- The first step in correcting an apparent error in the data is to determine if it is in fact an error rather than an exception to the norm.
- Once an error and the process for correcting it have been identified (for example, changing "Smith, Christopher" to "Smyth, Christofer"), the next step is to determine how many data systems might contain the error and to correct each instance.

Introduction

Item

- Use the **Basic Data Validating Steps** diagram to structure a discussion of what procedures participants are currently following to be sure data are entered correctly.

Lesson Resources for the Introduction

- Basic Data Validating Steps

Supplementary Resources for the Introduction

- Discussion Starter
  - Describe the worst data error in your experience. Discuss how you handled the situation and what you could have done better.

Activities and Instruction

Item

- Using the **Basic Data Auditing Steps** and the **Detailed Data Auditing Steps** diagrams, discuss the ways that checking for errors (data auditing) fits into the cycle of producing and consuming data.
- Delineate the elements of a data audit:
  - Reports
  - Analysis of data in reports
  - Identification of data anomalies
  - Determination of which anomalies are errors and which are the result of changes in the LEA
  - Locating sources of errors and sources of correct data
  - Communication to appropriate staff of errors detected and how they will be corrected
  - Correction of problems
  - Development of any change in procedure needed to prevent further similar errors and communication of such changes to appropriate staff
- Show examples of data reports.
- Have participants fill out a **Data Audit Planning Form** based on the *External Reports and Curricular Decisionmaking* sections of the **Data Calendar Planning Form** that the participants filled out in the ***Developing a Data Calendar*** session, and the **Possible Data Errors** form they completed in the **Types of Data Errors** session. Point out that filling in the "Time Needed" columns will be estimates (in days or weeks).
- Discuss in small groups the potential obstacles to implementing the data audit plan they have outlined.

Lesson Resources for Activities and Instruction

- Basic Data-Auditing Steps
- Detailed Data-Auditing Steps
- Possible Data Errors (also used in the ***Types of Data Errors*** lesson)
- Data Calendar Planning Form (also used in the ***Developing a Data Calendar*** lesson)
- Data Audit Planning Form

Summary/Wrap-Up

Item

- Discuss the items in **Examples of Best Practices Regarding Internal Data Audits**. Have participants note which steps are already undertaken in their districts, giving specific examples where appropriate. Ask them to prioritize for adoption items not already implemented.

Lesson Resources for the Summary/Wrap-Up

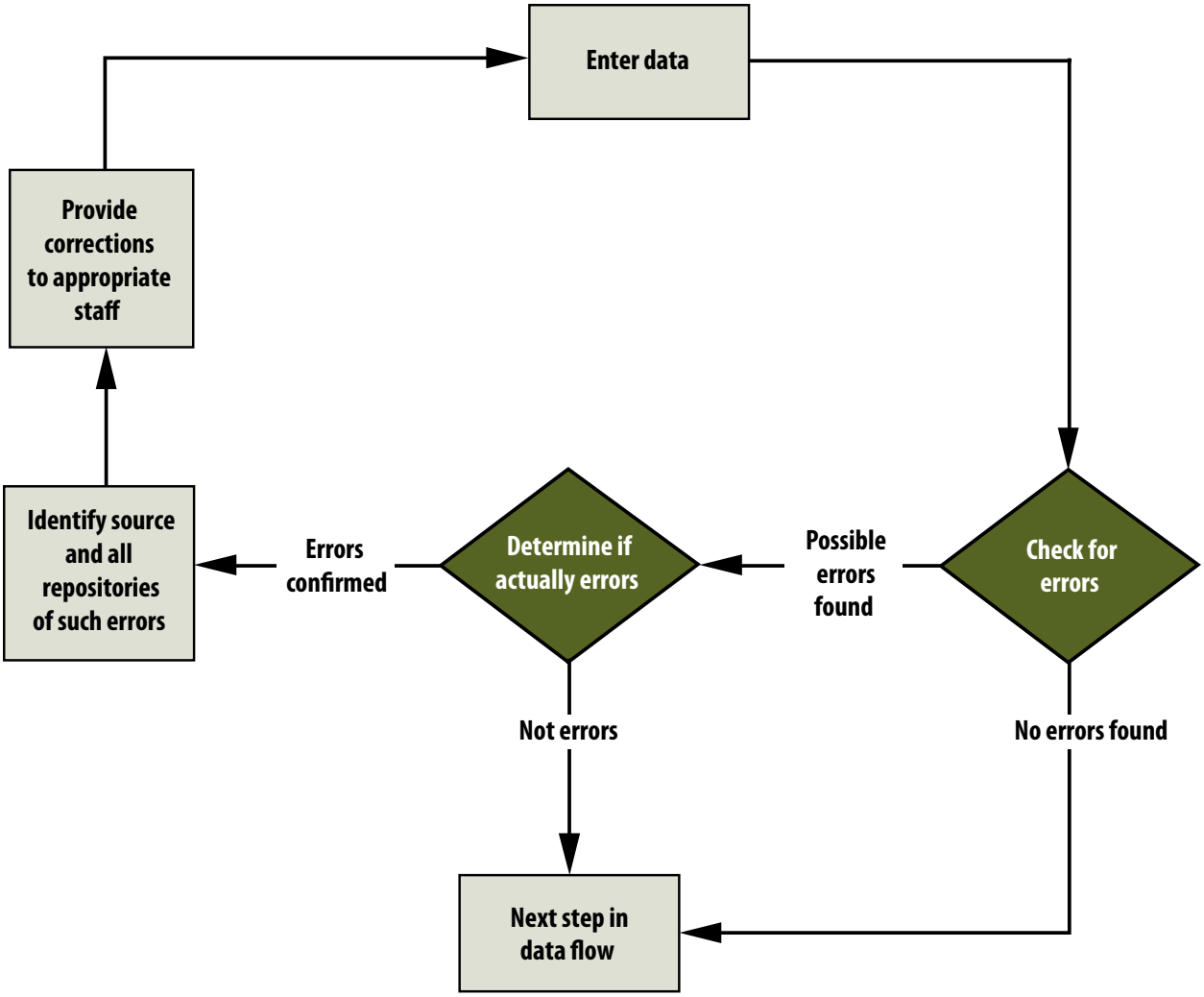
- Examples of Best Practices Regarding Internal Data Audits

Supplementary Resources for the Summary/Wrap-Up

- Discussion starters
  - How does one ensure that data are corrected everywhere at once and accurately?

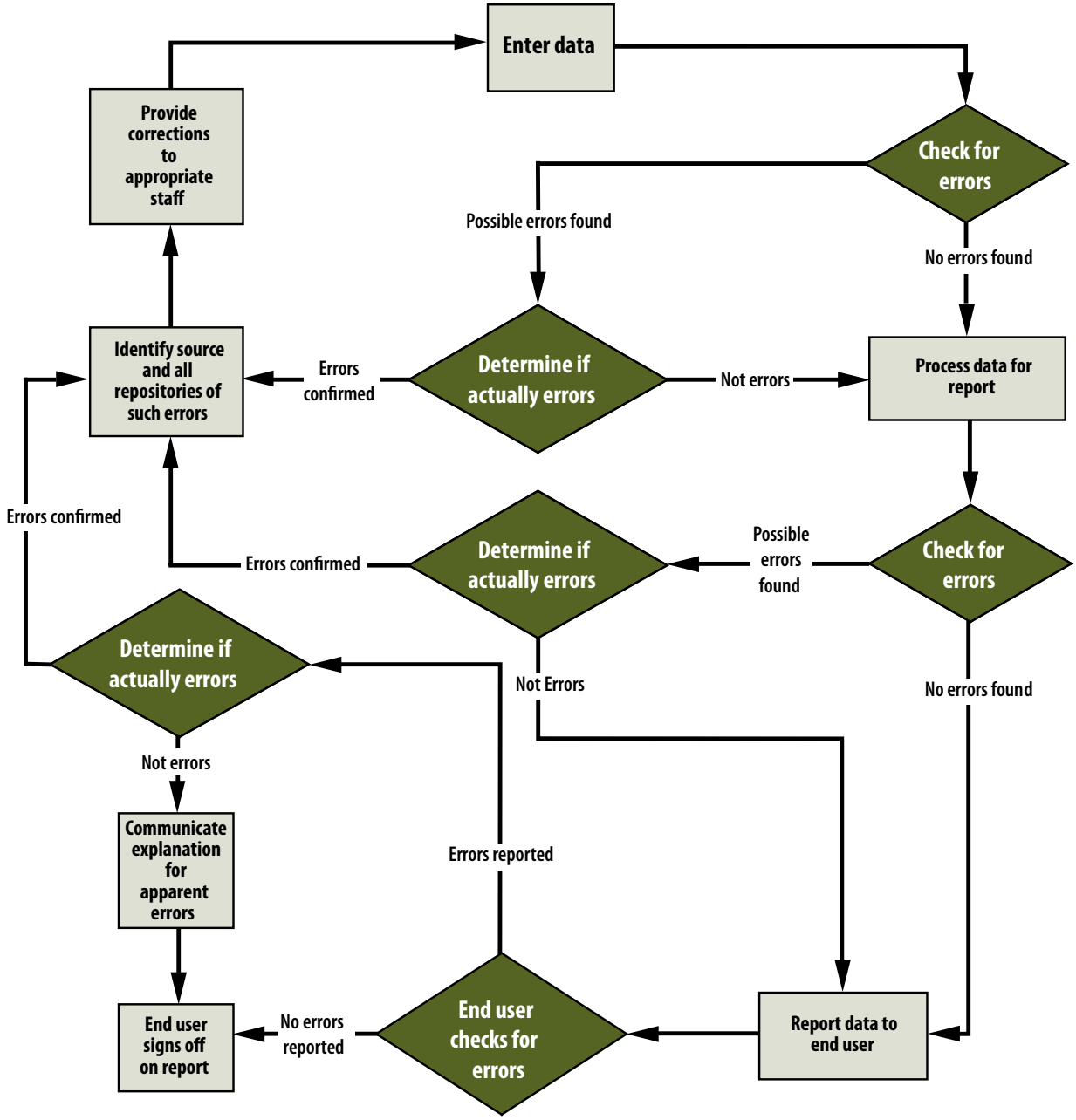
- How would you document that you have corrected an error?
- What sources of information would allow you to determine whether anomalies are errors or the result of programmatic or other changes in the LEA?

BASIC DATA VALIDATING STEPS

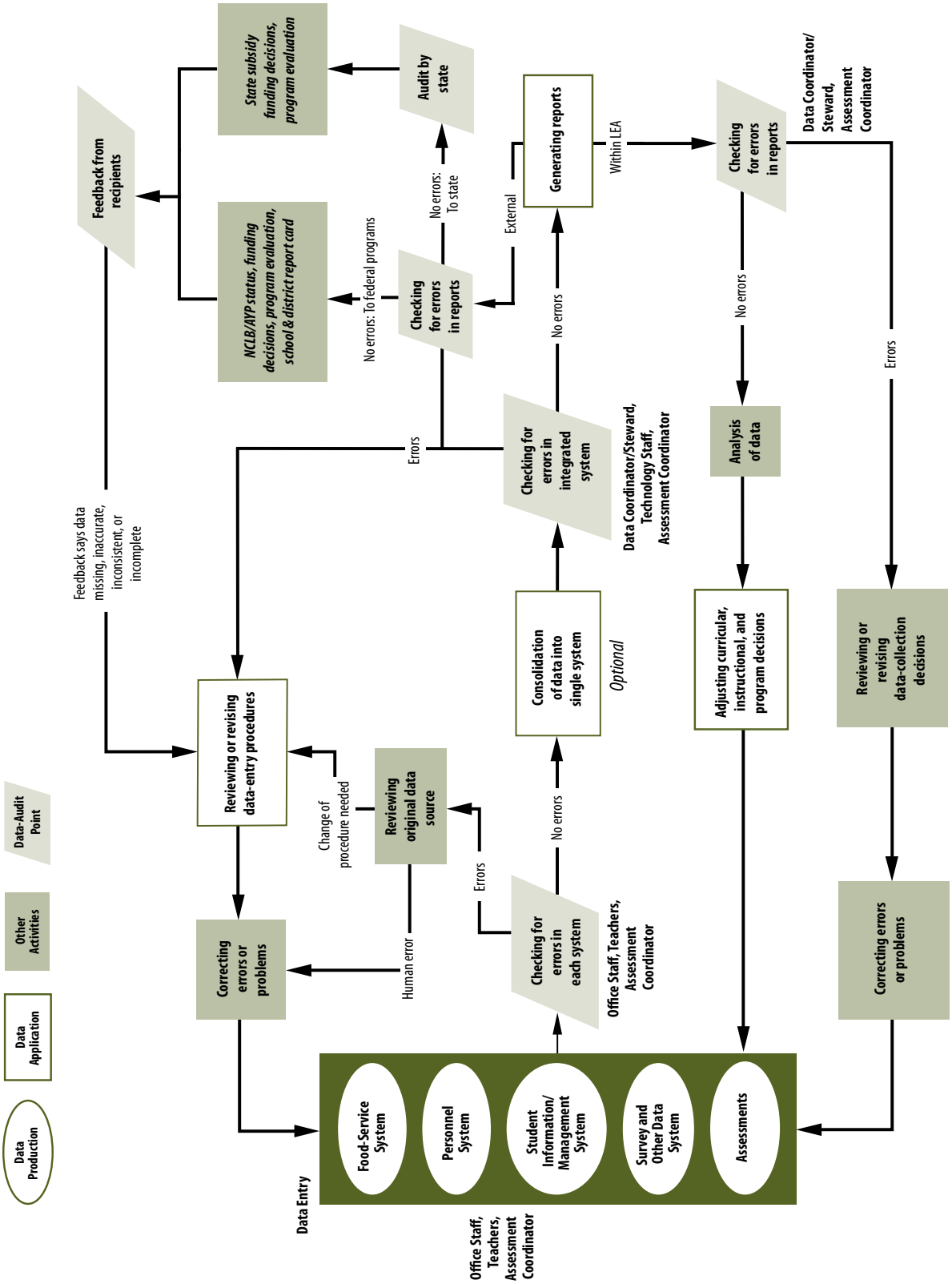


Repeat as needed

BASIC DATA AUDITING STEPS



DETAILED DATA AUDITING STEPS



Data Audit Planning Form

Using the information in the *External Reports* and *Data Submissions* and the *Curricular Decisionmaking* sections of your **Data Calendar Planning Form**, fill in the first two columns with the dates and names of reports or decisions pertinent to your district, preferably in chronological order. Then for each item on your list, fill in the additional columns. The "Time Needed" columns could indicate numbers of days or weeks required.

Date	Report/ Decision	Staff to Correct Errors	Time Needed to Correct Errors	Date to Deliver Error Report	Time Needed to Create Error Report	Date for Data Audit	Elements of Data Audit

Examples of Best Practices Regarding Internal Data Audits

- Establish or adapt a data dictionary.
- Allocate time and funds for conducting audit.
- Create a calendar of scheduled audits and disseminate it to all appropriate staff.
- Schedule audits more than once a year.
- Identify priority sources of data to be audited, based on importance of the data, potential for problems, and history of data inconsistencies or errors.
- Create reports or search methods that compare sample data against lowest level at which data exist (paper or electronic). For example, compare a report that shows the number of students in English III, Section 4, receiving As, Bs, Cs, etc., to the grade book from that class.
- Match report results against business rules in place.
- Provide preliminary and ongoing professional development for the auditor and for responding district staff.

Possible Data Errors

Type of Error	Example	Possible Consequences	Possible Correction Procedures
Inaccurate data	Student Information System (SIS) lists every child as Asian		
	Final grades incorrectly assigned in 10th-grade English classes		
Missing data	10 percent of student records have no date of birth		
	Schedule records missing teacher first name and identifier		
	No students identified as learning disabled		
Incomplete data	3 students listed as "Smith, J."		
	Teachers not turning in grades on time		
Inconsistent data	Student gender in one building SIS entered as "F" or "M" while in another building listed as "Female" or "Male"		
	Record for the same person listed as "Jones, Elizabeth" in SIS, "Jones, Beth" on state assessment data, "Jones, Liz" in cafeteria system		
Outliers	Final grade of 122 percent		
	3 scores on district-wide math assessment 30 percent or more below median score, 20 percent or more below next lowest scores		

Possible Data Errors (continued)

Use the spaces below to list other types of errors that may be found in LEA data.

Type of Error	Example	Possible Consequences	Possible Correction Procedures

Data Calendar Planning Form

District: _____

External Reports/Data Submissions Planning

In the first column, create a list of the reports and/or data submissions for which your school or district is responsible. For each item in the list, fill out the remainder of the cells as indicated in the example in the first row.

Report/Submission	Person Responsible for Report/Submission	Report/ Submission Deadline	Data Needed for Report/Submission
State assessment scores	Curriculum Coordinator	June 1	Student ID, Grade Level, District, Building, Math Score, Reading Score

Data Calendar Planning Form (continued)

Curricular Decisionmaking Planning

For each school building in your district, identify appropriate staff and the dates by which major curricular decisions (curriculum assignments, remediation needs, special placements, etc.) are made and data needed to support those decisions.

Building Name	Principal Name	Other Curriculum Staff	Technology Support Staff	Date(s) Info Needed	Data Needed for Decision

Lesson: Communication

Participants:

Data Steward/Coordinator

Description

This lesson addresses challenges related to communicating about quality data planning and development within a Local Education Agency (LEA). This lesson would typically be given toward the end of the training.

Objectives

- Identify the district staff who need to be involved in data quality planning and who should be informed of data quality issues.
- Demonstrate an understanding of the various methods by which information on data quality can be disseminated.
- Develop an ongoing professional development plan/structure for all appropriate district staff with regard to data quality issues.
- Develop a list of existing and needed documentation regarding data quality issues and develop resources to assist in the creation of further documentation.

Instructor Preparation

- Remind participants to bring their filled out copy of the **Data Steward/Coordinator Responsibility Assignments** checklist from the ***Data Steward/Coordinator Responsibilities*** session or, if you have collected them, have the checklists ready to distribute.
- Print a copy of the **Examples of Communication Tools and Techniques** list for your own reference during the introductory discussion.
- Look over the items listed in the first column of the **Communication Grid** and choose two or three for discussion. The discussion should focus on the different ways participants might address the communication issues involved.
- Make two to three copies of the **Data Calendar Starter Grid** for each participant.
- Make a single copy of the following lesson resources (which can be found on the pages following the lesson plan) for each participant:
  - Communication Grid
  - Professional Development Planning

Essential Learnings

- The Data Steward/Coordinator should communicate with all the other key players not only by conveying the facts of a situation, but also by advocating for the importance of establishing a culture of quality data at all levels of the LEA.
- Communication regarding data quality concerns takes place in various ways:
  - through written policies and documentation;
  - by disseminating reports that allow end users to both evaluate the quality of the data in the report and realize the importance of quality data in support of their responsibilities;
  - in ongoing professional development;
  - by providing feedback to data entry staff on the quality of the data and its impact on the LEA and its students; and
  - during meetings in which the need to reach decisions makes obvious the need for reliable facts (that is, quality data).
- Communication is so essential to the successful establishment of a culture of quality data that some communication activities should be formally incorporated into the LEA's data calendar.

Introduction

Item

- Develop with participants a list of techniques and strategies by which they foresee communicating with the other key players in their LEA concerning the various issues associated with building and maintaining a culture of quality data. This discussion might begin by brainstorming about some of the existing barriers to communication in their LEA and how they might work around them.

Lesson Resources for the Introduction

- Examples of Communication Tools and Techniques (for instructor reference)

Activities and Instruction

Item

- Have participants review the **Data Steward/Coordinator Responsibility Assignments** checklist completed in the ***Data Steward/Coordinator Responsibilities*** workshop. Have each participant mark off on the **Communication Grid** the responsibilities identified in the checklist as his or hers.
- For the indicated responsibilities, have participants check off the staff members to whom planning or data quality issues should be communicated. Then, in the *Communication Strategies* column, have participants indicate which of the communication techniques and strategies discussed during the lesson introduction they would employ regarding each item.
- Pair up the participants to compare with each other the choices they made for each item in the **Communication Grid**, making additions or changes as they wish. Then, with the whole group, pick two or three items for participants to discuss.
- Briefly review the training provided to the other key players in an LEA under ***Foundational Data Improvement Lessons*** in this curriculum. Then have participants discuss as a whole group (1) what previous training regarding issues related to data quality the key players in their LEAs have received and (2) what they each consider to be the priorities for additional or ongoing training.
- Based on that discussion, have participants fill out the **Professional Development Planning** sheet.

Lesson Resources for Activities and Instruction

- Data Steward/Coordinator Responsibility Assignments (also used in the ***Data Steward/Coordinator Responsibilities*** lesson)
- Communication Grid
- Professional Development Planning

Summary/Wrap-Up

Item

- Have participants gather their **Communication Grid, Professional Development Planning** sheet, and **Data Calendar Planning Form**. Using the **Data Calendar Starter Grid**, have participants fill in the Items column by combining, in order as best they can, the events listed on each of the other three sheets. (Distribute pencils for this activity, as participants are likely to want to change the placement of items as they discover others that precede them in time.) Then have participants put in the Date(s) column the deadline and time frame dates for each of the items they have listed.

Lesson Resources for the Summary/Wrap-Up

- Data Calendar Planning Form (also used in the ***Developing a Data Calendar*** lesson)
- Data Calendar Starter Grid
- Communication Grid
- Professional Development Planning

Examples of Communication Tools and Techniques

- Data dictionary
- Data entry standards
- Business rules
- Other documentation (print and online)
- Professional development
- Regular data quality meetings
- Data quality reports and feedback
- District procedures regarding data entry, correcting errors, etc.
- Data reports
- Data quality web page on LEA website
- Data calendar

Communication Grid

District: _____

For each Item for which you are responsible as Data Steward/Coordinator, check off the other Staff Members with whom you should communicate with regard to planning or data quality issues. In the Communication Strategies column, describe both the techniques you would use to communicate with the identified staff and the events or circumstances that would trigger such communication.

Item	Staff Members	Communication Strategies
Coordinate the data collection process ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Provide professional development for staff members leading toward a culture of quality data ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Resolve discrepancies in information before reports are forwarded to senior staff ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Develop a process that allows staff to request new reports or modifications of existing reports ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Collaborate with curriculum coordinator/ supervisor and staff from other educational program areas (special education, assessment, etc.) ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	

Communication Grid (continued)

Item	Staff Members	Communication Strategies
Establish data audit procedures ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Collaborate with technology director/ coordinator to enhance the ability of computer programs to determine effective editing procedures for reports and other information ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Develop a calendar for data collection and reporting ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Implement data needs analysis ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Develop and disseminate data dictionary ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Compile business rules ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	
Compile business rules ☐ My responsibility	☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Other _____	

Professional Development Planning

District: _____

Identify the data quality issues listed below for which you believe your Local Education Agency (LEA) staff members require additional professional development sessions to establish a culture of quality data. Then fill in the other columns, as indicated, for those issues. Add any additional topics for which you believe the key players in your LEA should receive professional development.

Data Quality Issue	Objective of Training	Training Frequency	Who Gets Training
Security and Confidentiality ☐ Training needed ☐ Training not needed			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
Data Entry Standards and Procedures ☐ Training needed ☐ Training not needed			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
Using the Data Dictionary ☐ Training needed ☐ Training not needed			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
Identifying and Correcting Data Errors ☐ Training needed ☐ Training not needed			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____

Professional Development Planning (continued)

Data Quality Issue	Objective of Training	Training Frequency	Who Gets Training
			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____
			☐ Board Member ☐ Superintendent ☐ Principal ☐ Teacher ☐ Technology Support ☐ Office Staff ☐ Self ☐ Other _____

Data Calendar Starter Grid

District: _____

Use the grid below to begin developing the data calendar for your Local Education Agency (LEA). Enter all data-related activities (data extraction, reports, professional development, planning meetings, student enrollment and scheduling periods, report card issuance, etc.) in the Item column. Under Date(s), indicate deadlines or time frames, as appropriate. Enter N/A (not applicable) where appropriate.

Date(s)	Item	Responsible Staff	Data Source	Data Reported To	Comments

Data Calendar Planning Form

District: _____

External Reports/Data Submissions Planning

In the first column, create a list of the reports and/or data submissions for which your school or district is responsible. For each item in the list, fill out the remainder of the cells as indicated in the example in the first row.

Report/Submission	Person Responsible for Report/Submission	Report/ Submission Deadline	Data Needed for Report/Submission
State assessment scores	Curriculum Coordinator	June 1	Student ID, Grade Level, District, Building, Math Score, Reading Score

Data Calendar Planning Form (continued)

Curricular Decisionmaking Planning

For each school building in your district, identify appropriate staff and the dates by which major curricular decisions (curriculum assignments, remediation needs, special placements, etc.) are made and data needed to support those decisions.

Building Name	Principal Name	Other Curriculum Staff	Technology Support Staff	Date(s) Info Needed	Data Needed for Decision

Data Coordinator/Steward Responsibility Assignments

District/School: _____

For each of the *Responsibility* items, indicate with a check mark in the *Self* column those items for which you expect to be responsible within your district. If others will be responsible for an item, put their names or positions in the *Other Staff Responsible* box for the item. In the *Comments* column, indicate any ambiguity or lack of clarity concerning responsibility for an item or make any other comments.

Responsibility	Self	Other Staff Responsible	Comments
Coordinate the data collection process			
Provide professional development for staff members leading toward a culture of quality data			
Resolve discrepancies in information before reports are forwarded to senior staff			
Develop a process that allows staff to request new reports or modifications of existing reports			
Collaborate with curriculum coordinator/ supervisor and staff from other educational program areas (special education, assessment, etc.)			
Collaborate with technology director/ coordinator to enhance the ability of computer programs to determine effective editing procedures for reports and other information			
Establish data audit procedures			
Develop a calendar for data collection and reporting			
Implement data needs analysis			
Develop and disseminate data dictionary			
Compile business rules			
Develop and disseminate data entry standards			

Discussion Questions:

Do you see any challenges with the way responsibilities are assigned in your district? What can you do to minimize those challenges?

What is the chain of command within your district for making decisions about data entry procedures, business rules, data standards, and other data-related issues?

Appendix A:

Glossary

Glossary

Items in boldface are defined in this glossary.

ADA: average daily attendance
A data item upon which many state and federal reports are based. Refers to the average number of students in attendance each day within a school or district over a specific time period.

ADM: average daily membership
A data item upon which many state and federal reports are based. Refers to the average number of students enrolled within a school or district each day over a specific time period.

aggregating
Combining separately reported data into a larger group; e.g., combining individual student attendance records into an overall district rate of attendance.

business rule
A guideline for standardizing how data are entered, validated, corrected, or applied. A fundamental tool in ensuring quality data. See decision rule, edit, process rule.

compliance
Report or data element conforming to legal and regulatory requirements.

confidential information
Information that, if disclosed, would generally be considered harmful or an invasion of privacy. In FERPA, any information that is not directory information is considered confidential; furthermore, parents have the right to request that directory information be kept confidential.

data analysis
Activities that seek to discern meaningful patterns and trends within data for the purpose of supporting effective decisions.

data audit
A procedure for monitoring the quality of data by analyzing reports for anomalies, inaccuracies, and missing data.

data calendar
A timeline, Gantt chart, table, or calendar showing the dates related to all events pertinent to the creation, movement, reporting, correcting, analyzing, or application of data.

data dictionary
A document defining the data elements collected and tracked by a system, indicating the nature of the element, any format restrictions, any rules that apply to the values (see business rule), and how the data will be used.

data element
The name of the most basic unit of data that can be defined and measured, e.g., Student Last Name. In some contexts, a data element is divisible into data items. Often used interchangeably with data item.

data event
Any occurrence that generates new data or information. Examples of data events include a test, an absence, and the registration of a new student.

data item
In some contexts, the smallest component of a data element. Sometimes a value classified under a data element (e.g., the data element "free or reduced lunch status" contains the data items "free," "reduced," and "paid"). Often used interchangeably with data element.

data ownership
Acknowledgement by each person involved with creating and applying data that he or she is responsible for the quality of the data: its accuracy, timeliness, utility, and security.

data quality standards
Criteria for measuring the quality of data or a report; e.g., "The grade field may have no more than 5 percent null entries on the mid-year report."

data silos
Separate repositories of data, the managers of which do not communicate with each other.

data steward/data coordinator
Staff member or staff members responsible for ensuring that the statistical information reviewed by senior staff presents data that have been entered accurately and collected systematically. Also responsible for enhancing the information reporting process through staff development and collaboration with the various offices and programs responsible for producing data and information.

data system
Usually refers to a computer-based application that holds information about a set of similar items (e.g., students, books, employees), with one record corresponding to each individual item in the set, and fields (e.g., first name, address, title) defined to hold specific data describing each item. In the larger sense, it is any combination of paper, electronics, and personnel that create, store, manage, and report on data.

data validation
A procedure for determining that all data values entered into a system are accurate.

data warehouse
A central repository of all, or a significant portion of, the data that an enterprise collects. A data warehouse generally provides access to data over a time span.

decision rule
A business rule that defines criteria for making a specific decision; e.g., "A student who scores below the proficient level on the state math assessment will be assigned to a remediation class until he or she achieves percent mastery of material."

decision support system
A cohesive, integrated hardware and software system designed specifically to manipulate data and enable users to distill and compile useful information from disparate sources of raw data to support problem solving and decisionmaking.

directory information
In FERPA, information not generally considered harmful or an invasion of privacy if disclosed. This is the information that would normally be included in a publicly available LEA directory or yearbook and defined by a district on an annual basis. Parents can request that student information normally included in a directory be kept confidential. Also defined as non-confidential information.

disaggregating
Breaking one element of a report into subsidiary groups; e.g., disaggregating a district's student test scores into separate scores for each gender.

dropout rates
Two types:

- annual student—the percentage of students who drop out in a given year
- cohort—the percentage of students from a specific grade cohort (e.g., the class of 2009) who are dropouts at the time the cohort ends

Specific formulas for determining dropout rates vary from state to state, although an effort to define a nationwide standard is under way.

EDEN: Education Data Exchange Network
A set of K-12 statistical reports gathered from state agencies by the U.S. Department of Education. Formerly known as the Performance-Based Data Management Initiative, EDEN attempts to gather statistics from each state such as school populations within subgroups (race, gender, etc.), graduation rates, and school spending.

edit
A business rule programmed into the system into which data are entered, limiting the possibility of entering inaccurate or inappropriate data.

educational indicator
A measure of the status of, or change in, an educational system with regard to its goals; e.g., student graduation rates.

FERPA: Family Educational Records and Privacy Act
Federal law governing the confidentiality of student records. FERPA is administered at the federal level by the Family Policy Compliance Office of the U.S. Department of Education.

HIPAA: Health Insurance Portability and Accountability Act
Federal law governing the confidentiality of health records, both for students and staff.

LEA: Local Education Agency
A governmental administrative unit at the local level that exists primarily to operate schools or to contract for educational services.

personally identifiable information
Information contained in a record that would make the identity of a student easily traceable or discernable. It includes, but is not limited to, the student's name, the name of the student's parent or other family members, a personal identifier (such as a Social Security Number or student number), a list of personal characteristics that would make the student's identity easily traceable, or other information that would make the student's identity easily traceable.

predictors
Data elements and combinations of data elements that have been shown to accurately forecast other measures, e.g., the rate of student absenteeism is a predictor of dropout rates.

process rule
A business rule defining the steps for entering, verifying, or correcting data.

SEA: State Education Agency
The agency of the state charged with primary responsibility for coordinating and supervising public elementary and secondary instruction, including the setting of standards for instructional programs.

security
Component of quality data related to the confidentiality of student and staff records and to the technical issues associated with keeping data safe (firewalls, data backups, etc.).

SIF: School Interoperability Framework
A set of specifications that allows school-based data systems (SIS, cafeteria, library, etc.) to automatically keep data consistent across all applications.

SIS or SMS: Student Information System or Student Management System
Two of many acronyms and terms for a data system by which schools keep track of student demographic (address, birthdate, gender, ethnicity, etc.), enrollment, and schedule information. Typically the largest source of student data.

staff identifier
Unique code assigned to an individual employee of an LEA. Although historically often the same as the employee's Social Security number, it is now generally considered better to assign a different identifying code.

student identifier
Unique code assigned to an individual student. Can be assigned on an LEA or statewide basis (that is, identifier can be unique within the school or district or unique within the entire state). LEA identifiers are often generated by a SIS.

Appendix B:

Downloading Lesson Plan and Lesson Resource Files

Downloading Lesson Plan and Lesson Resource Files

Each lesson below can be downloaded as a compressed file containing modifiable versions of each lesson plan and the lesson resources associated with it. Most of these files are Microsoft Word documents. Files of diagrams and flow charts are Inspiration files and a few files are in Microsoft Excel.

To download these files, go to the National Forum for Education Statistics publications web page (http://nces.ed.gov/forum/publications.asp) and click on the link Current Projects, then the link for ***Forum Curriculum for Improving Education Data: A Resource for Local Education Agencies.*** You will see links for downloading these files.

Part I: Foundational Data Improvement Lessons

What is a Culture of Quality Data?

Assessing Your LEA's Data Quality

Classifying Education Data

Security and Confidentiality

Part II: Data Steward/Coordinator Training

Data Steward/Coordinator Responsibilities

Data Flow and Data Cycles

Data Entry Issues

Creating and Using a Data Dictionary

Types of Data Errors

Developing a Data Calendar

Validating and Auditing Data

Communication

Appendix C:

Downloading Supplementary Resources

Downloading Supplementary Resources

Resources are grouped according to the lesson to which they are most pertinent. Each entry consists of a resource title, a description of the resource, and, if the file is not on the Forum publications server, a link where it can be located. If any of the URL links has expired, work your way back to the root level of the URL by deleting the text after the last backslash (/) and hitting "enter." Continue to delete the last level of text until you reveal a useful page. It is possible that some links will have expired.

To download those files for which a URL is not listed here, go to the National Forum for Education Statistics publications web page (http://nces.ed.gov/forum/publications.asp) and click on the link for ***Forum Curriculum for Improving Education Data: A Resource for Local Education Agencies***. You will see links for downloading the supplementary resources.

Part I: Foundational Data Improvement Lessons

What is a Culture of Quality Data?

Building a Culture of Quality Data.ppt
A PowerPoint presentation outlining the ***Forum Guide to Building A Culture of Quality Data***.

Forum Guide to Building a Culture of Quality Data
Complete PDF of the Forum handbook, parts of which are read in this lesson and **Assessing Your LEA's Data Quality**. Includes tip sheets for each key player, listing each player's roles and responsibilities regarding data quality.
http://nces.ed.gov/pubs2005/2005801.pdf

Quality Data Culture Concept Map (a).doc
Concept map of the *Forum Guide to Building A Culture of Quality Data*, in Microsoft Word format, with the hierarchy moving from left to right.

Quality Data Culture Concept Map (a).isf
Concept map of the *Forum Guide to Building A Culture of Quality Dat*a, with the hierarchy moving from left to right, in the original Inspiration file.

Quality Data Culture Concept Map (b).doc
Concept map of the *Forum Guide to Building A Culture of Quality Data*, in Microsoft Word format, with the hierarchy moving from top to bottom.

Quality Data Culture Concept Map (b).isf
Concept map of the *Forum Guide to Building A Culture of Quality Data*, with the hierarchy moving from top to bottom, in the original Inspiration file.

Quality Data Culture Concept Map.ppt
A single PowerPoint slide that builds a concept map of the *Forum Guide to Building A Culture of Quality Data*.

Classifying Education Data

Multiple Measures slide show.ppt
A PowerPoint presentation displaying Vicki Bernhardt's Multiple Measures of School Data Venn diagram.

Security and Confidentiality

Family Educational Rights and Privacy Act Regulations
The regulations promulgated by the U.S. Department of Education to implement FERPA.
http://www.ed.gov/policy/gen/guid/fpco/pdf/ferparegs.pdf

FAQ on HIPAA and School Health
A web site of the Commonwealth of Massachusetts Department of Public Health. Check for a similar site in your own state.
http://www.mass.gov/dph/fch/schoolhealth/hipaa_faq.htm

Family Educational Rights and Privacy Act
The text of the Family Education Records and Privacy Act, broken down by issues.
http://www.gpo.gov/nara/cfr/waisidx_00/34cfr99_00.html

Forum Guide to Protecting the Privacy of Student Information: State and Local Education Agencies (2004)
A handbook covering FERPA and other federal laws affecting information privacy in schools. Contains sample forms and notifications.
http://nces.ed.gov/pubs2004/2004330.pdf

Forum Guide to the Privacy of Student Information: A Resource for Schools
A summary of FERPA rules and definitions for schools.
http://nces.ed.gov/pubs2006/2006805.pdf

U.S. Department of Health and Human Services, Office of Civil Rights—HIPAA
Links to a wide variety of information about HIPAA.
www.hhs.gov/ocr/hipaa

Part II: Data Steward/Coordinator Training

Data Steward/Coordinator Responsibilities

Job Description Form.doc
A blank and generic job description form.

Data Entry Issues

Improving Data Quality for Title 1 Standards, Assessments, and Accountability Reporting. Guidelines for States, LEAs, and Schools (Non-Regulatory Guidance, April 2006)
Addresses data quality issues associated with the annual Report Card required of all states, Local Education Agencies (LEAs), and schools receiving Title I, Part A funds under Sec. 1111(h) of ***No Child Left Behind***.
http://www.ed.gov/policy/elsec/guid/standardsassessment/nclbdataguidance.doc

Creating and Using a Data Dictionary

EDEN Data Framework Handbook V4.0.doc
A description of the conceptual model that is used to define the data requirements for the Education Data Exchange Network (EDEN).

EDEN Data Set 06-07.pdf
A highly technical document that contains a detailed description of all data groups and data categories proposed for collection through EDEN for school year 2006-2007.

High-Priority Data Elements.doc
Lists of data elements, organized by category, required of LEAs by state and federal governments and commonly used in making educational decisions.

NCES Data Handbooks Online
Guidance on consistency in data definitions and maintenance for education data, so that such data can be accurately aggregated and analyzed. Includes data elements for students, staff, and education institutions in a searchable web tool.
http://nces.ed.gov/programs/handbook/

Sample Data Dictionaries
Various web sites illustrating the variety of ways a data dictionary can be designed.
http://www.geocities.com/tablizer/ddsamp.htm
http://www.cob.niu.edu/faculty/m10nlr1/omis651/samdd.html
http://reach.ucf.edu/~arhs/backup/Steve/4193/theme6/sld003.htm
http://www.cs.ust.hk/faculty/fred/FYP/DB-development/Requirements/data-dictionary-example.html

Writing Effective Data Definitions.doc
Instructional content developed by the California Department of Education regarding issues related to development of a data dictionary.

Developing a Data Calendar

Sample Data Calendar.doc
Example of an LEA data calendar, with no indication of related activities.

Sample Data Calendar color.doc
Example of an LEA data calendar, with related activities indicated by colored text.

Sample Data Calendar ordered.doc
Example of an LEA data calendar, with related activities grouped consecutively.

Sample Data Calendar shaded.doc
Example of an LEA data calendar, with related activities indicated by shading of rows.

Sample Gantt.pdf
A generic Gantt chart.

Sample Gantts from calendar.pdf
Two Gantt charts describing two of the processes in the Sample Data Calendar.

Types of Data Errors

Bad Data
An Excel file of 25 student records containing examples of typical data errors.

Bad Data Answer Key
An Excel file describing, for those records with errors, what the errors are.

NOTES

NOTES

NOTES

NOTES

NOTES

U.S. Department of Education
ED Pubs
8242-B Sandy Court
Jessup, MD 20794-1398

U.S. Department of Education
Institute of Education Sciences
NFES 2007-808