



INTERACTIVE INSTITUTES **2020**

BUILDING AND SUSTAINING A CULTURE OF HIGH-QUALITY DATA

# Opening the Door for Data Use: Improving Data Quality With Data Integration



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CENTER

Collect, Report, Analyze, and  
Use High-Quality Part B Data



# Presenters



## **Fort Worth, TX – March 3–4, 2020**

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## **Nashville, TN – Cancelled Due to COVID-19**

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# What This Session Will Cover



- Data integration and data quality
- The role of data governance
- IDC's *SEA Data Processes Toolkit*
- Center for the Integration of IDEA Data's (CIID) *Data Integration Toolkit*
- State experiences with integration and the toolkits
- Small group discussions and sharing



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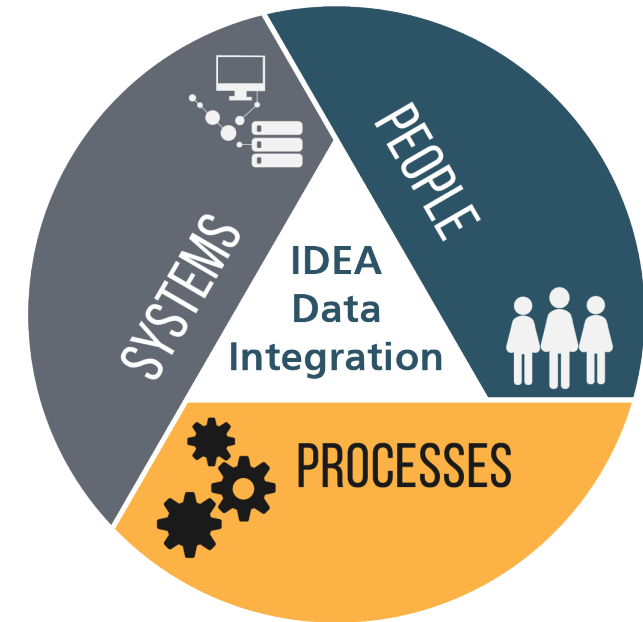
# To Integrate

To form, coordinate, or blend  
into a functioning or unified  
whole



# Data Integration

The combination of **technical and business processes** used to **combine data from disparate sources** into meaningful and valuable information



Definition: Coffey, M., Chatis, C., Sellers, J., and Taylor, R. (2014). *Early Childhood Integrated Data Systems Toolkit*. U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from <https://slds.ed.gov/#program/ecids-toolkit>.

Image source: Center for Integration of IDEA Data

# Data Integration: A Holistic View

Data integration impacts all aspects of the data life cycle and use

- Collection
- Validation and cleansing
- Monitoring data quality
- Presentation and use



# Describe How Data Are Integrated in Your State and Any Future Plans for Data Integration



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# Data Quality in an Integrated System



- A single authoritative source for each data element
- Consistent definitions of source data
- Easier to identify where data quality issues originate
- Collect data once, use multiple times

***All of which leads to more confidence in the data***



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# Benefits of a Single Source of Information



- Reduces confusion about which source to use
- Reduces the need to resolve discrepancies between sources
- Stores data for students with and without disabilities in the same location
- Updates data element one time in one location
- Allows for more automated processes



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# Role of Data Governance

- Establishes roles and responsibilities
- Develops consistent processes
- Increases transparency in processes
- Develops common understanding of data
- Identifies stakeholders and data users affected by changes





# Examples of Data Governance at Work



- Data stewards
- Roles and responsibilities
- Documentation of processes and standards
- Identification of authoritative data sources
- Coordination of timelines
- Documentation of dependencies



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# What Impacts on Data Quality Have You Seen With Data Integration?



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# IDC's *SEA Data Processes Toolkit*



What is it?—A collection of templates to document all state-level IDEA data collection and reporting procedures and activities



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# Resources Included in the *SEA Data Processes Toolkit*

- State landscape protocol
- 618 data collection protocols
- 616 SPP/APR protocols
- Part B LEA Determinations
- Business rules documentation protocol
- Data collection calendar



# Basic Structure of the Protocols



- *Essential Elements* captures basic background information (e.g., description of collection or indicator, due date, contact information)
- *Processes* captures specific steps for data collection, validation, analysis, submission, governance, and public reporting



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# Data Processes Documentation



- Establishes a well-managed process for data collection, analysis, and reporting
- Establishes and supports consistent practices for producing valid and reliable data
- Builds capacity of data stewards and staff



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# What Data Processes Documentation Do You Have in Place or in the Works?



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# CIID *Data Integration Toolkit*



What is it?

- The toolkit is a collection of resources that outline the major steps and supporting tasks required to complete any data integration process
- Each task has a corresponding guiding document detailing its purpose, suggested activities, timeline, previously learned lessons, and available resources



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# Data Integration Toolkit Steps

- Step 1. Define the goals for integration
- Step 2. Establish project plan and structures for data integration work
- Step 3. Locate and organize all potential data elements and associated attributes for integration into a data repository
- Step 4. Complete master integrated dataset
- Step 5. Implement and perform extract, transform, and load (ETL) procedures
- Step 6. Conduct review and validation of data integration
- Step 7. Conduct post-integration supports and activities



# Selected Resources From the CIID

## *Data Integration Toolkit*



- Data Integration Use Case Exercise
- Communication Plan Template
- Common Education Data Standards (CEDS) Align Tool
- Data Flow Ideograph Tool
- Extract, Transform, Load (ETL) Checklist
- Sustainability Plan (Sustaining Generate: Roles and Responsibilities)



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# How Do Resources—Such as the *Communication Plan*, *ETL Checklist*, and *Sustainability Plan*—Support Maintenance of Quality Data?



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# Impact of Data Integration on Data Analysis



- Multiple program areas use the same data to analyze outcomes
- Supports greater understanding of dependencies and linkages between programs and outcomes
- Provides holistic view of the outcomes for all students



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# How Does Integrated Data Open Doors for More Data Analysis?



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# Small Group Discussion

- Gather in groups of three or more
- Review the questions on the handout, and choose two or more to discuss

- If you could integrate data in your state with a snap of a finger, what would you integrate and why?
- What types of analysis might be possible with integrated data that are not possible now?
- How does process documentation support your data quality efforts?

# Resources

- IDC's *SEA Data Processes Toolkit*  
<https://www.ideadata.org/sea-data-processes-toolkit>
- CIID's *Data Integration Toolkit*  
<https://ciidta.grads360.org/#program/toolkit>
- Common Education Data Standards <https://ceds.ed.gov/>



# Contact Us



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# For More Information



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