CENTER *for the* INTEGRATION *of* IDEA DATA

Data Quality Through Data Integration: How Integrating Your IDEA Data Will Help Improve Data Quality

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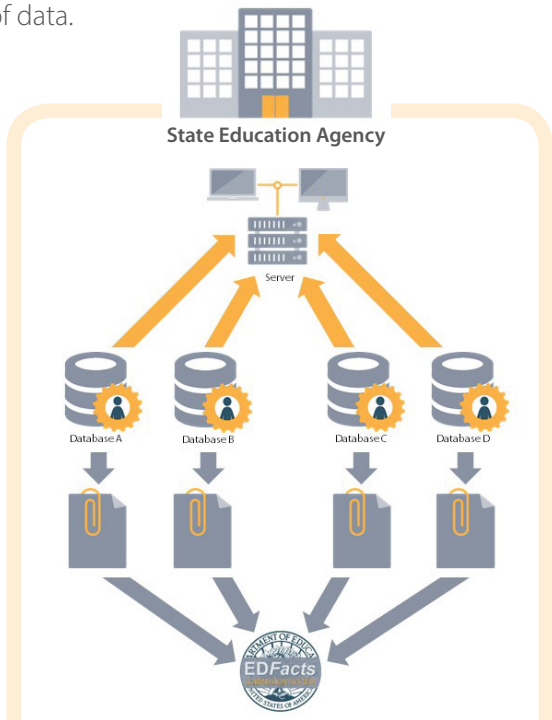
High-quality data is essential when looking at student-level data, including data specifically focused on students with disabilities. For state education agencies (SEAs), it is critical to have a solid foundation for how data is collected and stored to achieve high-quality data. The process of integrating the Individuals with Disabilities Education Act (IDEA) data into a statewide longitudinal data system (SLDS) or other general education data system not only provides SEAs with more complete data, but also helps SEAs improve accuracy of federal reporting, increase the quality of and access to data within and across data systems, and make better informed policy decisions related to students with disabilities. Through the data integration process, including mapping data elements, reviewing data governance processes, and documenting business rules, SEAs will have developed documented processes and policies that result in more integral data that can be used with more confidence.

In this brief, the Center for the Integration of IDEA Data (CIID) provides scenarios based on the continuum of data integration by focusing on three specific scenarios along the integration continuum to illustrate how a robust integrated data system improves the quality of data.

Scenario A: Siloed Data Systems

Data systems where the data is housed in separate systems and databases are often referred to as "data silos."[1] These data silos are isolated from other data systems and databases. Where data quality is concerned, siloed systems will have inconsistent data quality due to the lack of interconnectivity of data among the different collections. As an example: a student's identified race in one collection silo may not be the same in a second collection silo for the same student. Although this could be an issue in any data system, siloed data systems present a greater risk for discrepancies and redundancies in the data. In addition, isolated data silos will make broad scope decision-making very difficult. The data are not interconnected, making it difficult to make accurate data-driven policy, program, and achievement decisions and interpretations. This can make data less valuable for data use by SEAs, LEAs, and researchers.

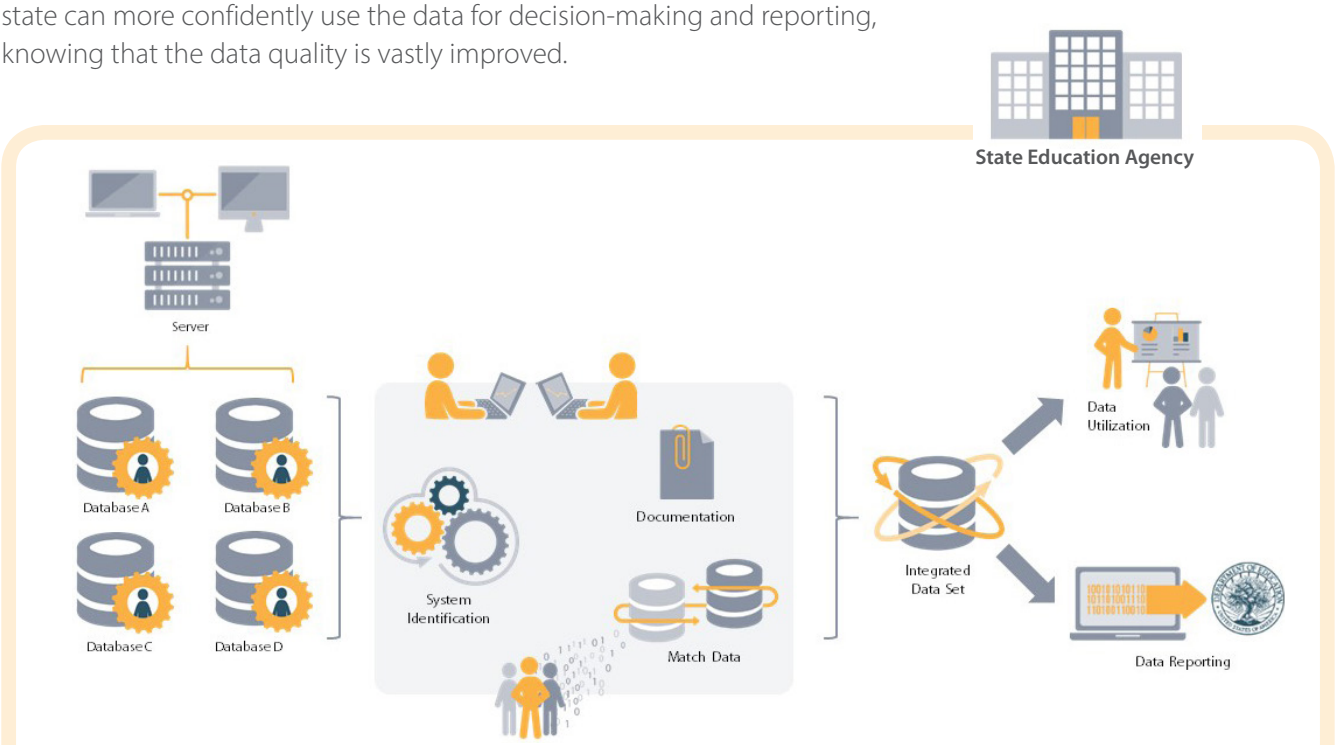


Scenario A – Living in a World of Data Silos

[1] A data silo is "a repository of fixed data that remains under the control of one department and is isolated from the rest of the organization, much like grain in a farm silo is closed off from outside elements. (Source: **searchcloudapplications.techtarget.com**)

Scenario B: Process of Integrating Data Systems

Data system integration begins with the people and processes supporting the data system before focusing on the system itself. Data governance is at the core of the integrating process and key component is identifying individuals at the SEA who will be the decision-makers and users of the data. These individuals will oversee the data integration process and develop and enforce policies and practices for decision-making and risk escalation. Similarly, the documentation of processes and policies for data collection, validation, and storage are key to developing a robust integrated data system. The data governance documentation process allows the SEA team to identify the processes they will use to cross-validate data, which will minimize inconsistencies and redundancies within the data, identify the element source to be used in mapping the data, and documenting the business rules regarding the use of the data. Once an integrated data set is established the state can more confidently use the data for decision-making and reporting, knowing that the data quality is vastly improved.



Scenario B – Working Through the Data Integration Process

State Showcase: Mississippi

"Approaching data integration with an open mind and courageous spirit is key to successful data quality management. This means analyzing each data element, confirming or challenging long-held assumptions and business practices, and aligning data to requirements and stakeholder goals. With this effort spent on integration, stakeholders and providers have gained accurate insights for improvement strategies."

-Deborah Donovan, Director of Office of Data Analysis and Reporting, Mississippi Department of Education

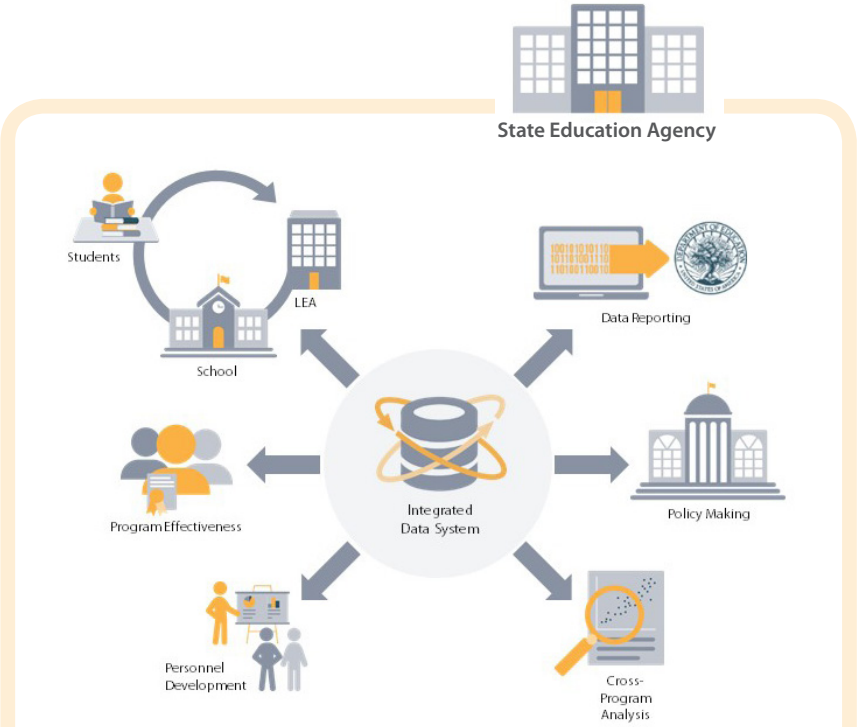
Scenario C: Fully Integrated Data System

Going through the steps of the data integration process, which can be done using CIID's Data Integration Toolkit, to create a fully integrated data system is the best method to ensure high quality data[2] coming out of that system. An SEA with a high-quality, fully integrated data system will have gone through a similar process as noted in Scenario B, where the SEA's entire integrated system has documented policies, processes, and data definitions, built-in data quality edit checks, and strong data validation policies in place to keep it free from data redundancies and inconsistencies. Having gone through the integration process, SEA staff will have a better overall knowledge of the data and better decision-making ability regarding the collection and use of the data. An SEA that has achieved and implemented a fully integrated data system will need to continue to review and update the process on a regular basis to ensure that the system is operating with continued high-quality procedures and high data quality within the system.

What sets SEAs apart that have high-quality Integrated data is the ability to do broad cross-program analysis and extraction of information that would otherwise be difficult or impossible (e.g., achievement levels of special education students who also participate in career and technical education). This also provides program area staff with evidence to evaluate and demonstrate the effectiveness of their program, identify areas for professional development, inform/drive policy, and allocate appropriate resources to assist schools in better educating their student population.

Summary

To achieve better data quality, an SEA can pursue data integration to map the state's data elements, review data governance processes, and document business rules. These activities will help the SEA have documented and developed processes and policies that will result in more integral and higher-quality data that can be used with confidence by SEA staff and stakeholders.



Scenario C – Living in a Fully Integrated Data System

High-quality data matters because of the potential impact that it can have on many parts of the educational data ecosystem, from building strong data governance policies to the ability for wide use of the data, knowing it has integrity. It is critical, therefore, to understand that SEAs must lay a solid foundation and go through the necessary preparation and steps to create a high-quality, fully integrated data system. These steps are expertly laid out in CIID's Data Integration Toolkit, which acts as a roadmap to achieve a high-quality integrated data system and that can be used regardless of where an SEA is in the integration process. Undertaking this process opens the SEA to a whole new world of data use and allows the SEA to use data with confidence.

Questions about moving along the IDEA data integration process? Contact CIID at **CIIDTA@aemcorp.com**.

[2]Data quality is "a multi-dimensional measurement of the adequacy of a particular datum or datasets based on a number of dimensions including, but not limited to, accuracy, completeness, consistency, and timeliness." (Source: **ciidta.grads360.org/#program/glossary**).

Related Resources

- States Improving Data Quality through IDEA Data Integration (Webinar)
  https://ciidta.grads360.org/#communities/pdc/documents/16645
- Benefits of an Integrated Data System
  https://ciidta.grads360.org/#communities/pdc/documents/7641
- CIID Data Integration Toolkit
  https://ciidta.grads360.org/#program/toolkit
- States Improving Data Quality through IDEA Data Integration (Webinar)
  https://ciidta.grads360.org/#communities/pdc/documents/16645

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