



What Is the Framework for Data Systems?

Effective data systems provide users with comprehensive, accurate information that promotes good decisionmaking. The Framework for Data Systems describes the components necessary to build and support such a data system: it is a map that can be used to better understand the different facets included in the design, development, implementation, use, and sustainability of a data system. The Framework includes six key components of a data system as well as criteria that further define the components.

What Is the Purpose of the Framework?

The Statewide Longitudinal Data Systems (SLDS) Grant Program State Support Team uses the six components of the Framework to evaluate project plans, identify areas for improvement, and recommend next steps. SLDS project leaders can also use the Framework to guide their project activities and make sure they have essential building blocks in place for a successful SLDS. The Framework is a foundation upon which: (1) states can benchmark their progress in designing, building, and implementing data systems; (2) the State Support Team can identify strengths and areas of need for a state's data system to inform individual and multi-state technical assistance; and (3) information can be gathered in a consistent manner during monitoring site visits.

What Does the Framework for Data Systems Look Like?

The Framework for Data Systems includes six components that constitute the building blocks of an effective data system. Within the components are several criteria that will help project leaders ensure they are on track toward building a strong and well-supported data system. The components and their associated criteria are described in detail below.

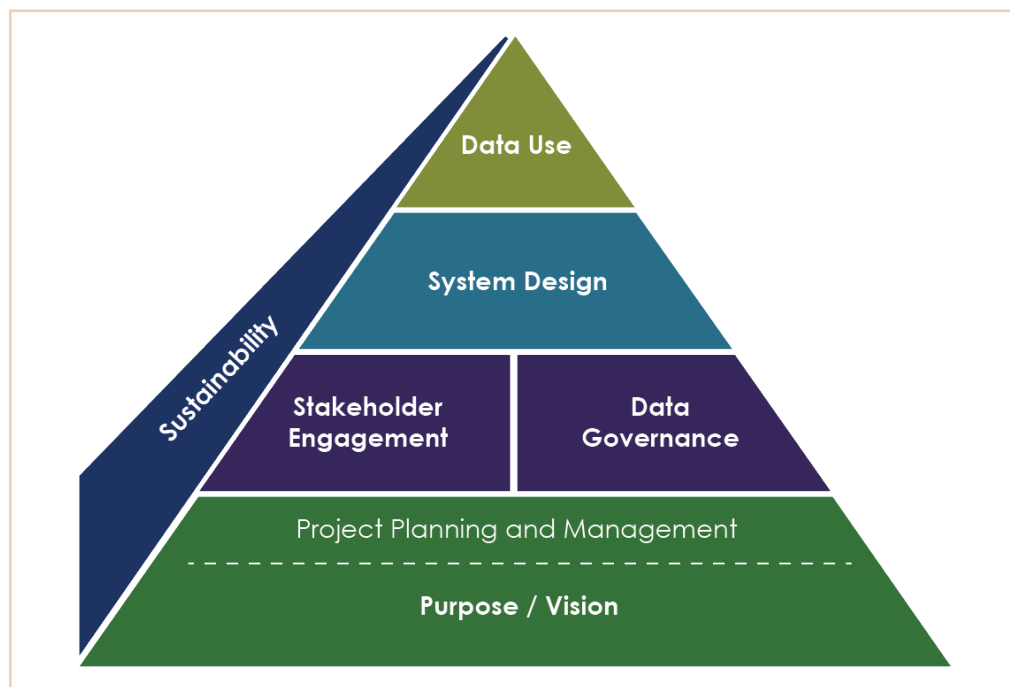


Figure 1. The Framework for Data Systems

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For more information on the IES SLDS Grant Program, additional SLDS publications, or for support with system development or use, please visit <http://nces.ed.gov/programs/SLDS>.



Purpose/Vision

The Framework starts with establishing the data system's purpose or vision, which provides the foundation for the data system and guides all subsequent efforts related to the system. The implementation of project planning and management processes grows out of the project's purpose and vision and will inform efforts to involve stakeholders in decisions about governance, system design, and data use.

Criteria Associated with the Purpose/Vision Component of the Framework

- a. Defining the purpose so that the data system has a clear vision and mission, as well as detailed goals and key strategies.
- b. Stating the desired outcomes for the system.
- c. Implementing project planning and management processes that support the project's purpose and vision.



Stakeholder Engagement

Stakeholders are any individuals, agencies, or groups affected directly or indirectly by the SLDS. They can include agencies contributing data to the SLDS, students or other individuals whose information is stored in the system, educators, parents, policymakers, researchers, and other data users. Engaging stakeholders appropriately throughout the SLDS development process helps ensure the system is designed to meet their needs and becomes a vital resource in the long term.

Criteria Associated with the Stakeholder Engagement Component of the Framework

- a. Demonstrating a formal process that accounts for the
 - desired outcomes of engaging stakeholders;
 - purpose, roles, and responsibilities of stakeholders;
 - engagement and participation of stakeholders;
 - leadership support for engaging stakeholders; and
 - accommodation of challenges through an escalation process.
- b. Demonstrating stakeholder buy-in, including
 - communications between and among stakeholders and related groups;
 - a communications plan for the data system; and
 - a process for stakeholder feedback.



Data Governance

Data governance refers to the overall management of SLDS data, including its availability, usability, integrity, quality, and security. As a process undertaken by SLDS managers and data owners, it establishes responsibility for data and encourages collaborative and continuous improvement to data quality through the systematic creation and enforcement of policies, roles, responsibilities, and procedures. Data governance includes establishing governing bodies or councils within agencies responsible for data collection as well as across SLDS partner agencies. Data governance can occur concurrently with stakeholder engagement and may involve many of the same individuals or groups, but its goals are distinct.

Criteria Associated with the Data Governance Component of the Framework

- a. Demonstrating a formal process that includes
 - a purpose;
 - roles, responsibilities, and decisionmaking authority;
 - an issue resolution/escalation process;
 - the process for conducting meetings;
 - regularly scheduled meetings; and
 - minutes and documentation.
- b. Engaging in data quality processes and training.



System Design

System design encompasses the planning and development of an SLDS to meet specific needs and goals. System design is influenced by a number of factors, including technical requirements, legal requirements, available resources, and intended uses of the system.

Criteria Associated with the System Design Component of the Framework

- a. Implementing project planning and management processes.
- b. Demonstrating appropriate access and privacy, including
 - data-sharing agreements and memorandums of understanding covering data access policies, data confidentiality policies, and FERPA compliance;
 - a role-based access model; and
 - a security model.
- c. Understanding the procurement process, including establishing a process for managing vendors.

- d. Creating collection and storage processes for data collection, data quality and data validation, data audits, data warehousing, and extract, transfer, and load (ETL).
- e. Integrating and exchanging data, which includes planning for data exchanges, data matching, data standards, identity management, unique IDs, and interoperability.



Data Use

The Data Use component serves the purpose and vision established for the SLDS by presenting the data stored in the system in a manner that can inform decisionmaking and improve education activities. Data use strategies help ensure SLDS data reach the stakeholders who need it in a format they can use. Products such as reports, datasets, dashboards, and analysis tools are the tangible outputs of the SLDS.

Criteria Associated with the Data Use Component of the Framework

- a. Creating and analyzing usage, including collecting usage metrics and user metrics.
- b. Creating reports, including such considerations as stakeholder involvement, user input, a plan to create reports, dashboards, Business Intelligence tools, and research and evaluation.
- c. Supporting users, including training on how to use the system, data use training, and a feedback process to gather and respond to input.



Sustainability

Sustainability is the process of ensuring the data system becomes a valued resource in the long term. Sustainability begins in the earliest phases of the project and is supported by each of the other components.

Criteria Associated with the Sustainability Component of the Framework

- a. Continuing to use stakeholder support as a way to sustain and enhance the system.
- b. Ensuring widespread use of the data system.
- c. Seeking necessary financial and human resource support.
- d. Determining the “return on investment.”

Additional Resources

SLDS Best Practices Brief: P-20W Data Governance

http://nces.ed.gov/programs/slds/pdf/brief4_P_20W_DG.pdf

SLDS Issue Brief: Effective Project Planning and Managing Change

http://nces.ed.gov/programs/slds/pdf/managing_change.pdf

SLDS Sustainability Planning Guide

http://nces.ed.gov/programs/slds/pdf/sustainability_guide.pdf

SLDS Sustainability Toolkit

http://nces.ed.gov/programs/slds/pdf/sustainability_toolkit.pdf

SLDS Workshop Summary: Developing a Data Use Strategy

http://nces.ed.gov/programs/slds/pdf/data_use_strategy.pdf

Stakeholder Engagement Toolkit: Traversing Stakeholder Land

http://nces.ed.gov/programs/slds/pdf/target_team_stakeholderland.pdf

Traveling Through Time: The Forum Guide to Longitudinal Data Systems: Planning and Developing an LDS

<http://nces.ed.gov/pubs2011/2011804.pdf>