



SLDS Workshop Summary: Data Use

Developing a Data Use Strategy

This publication aims to help states detail the current status of their State Longitudinal Data System (SLDS) data use strategy and identify concrete next steps to further develop the strategy. The content is based on the State Support Team's (SST) February 2013 Data Use Workshop at the MIS Data Conference as presented by Corey Chatis. The Data Use Workshop presentation slides and the Data Use Self-Assessment Guide are available on the Public Doman Clearinghouse: <https://grads360.org>.

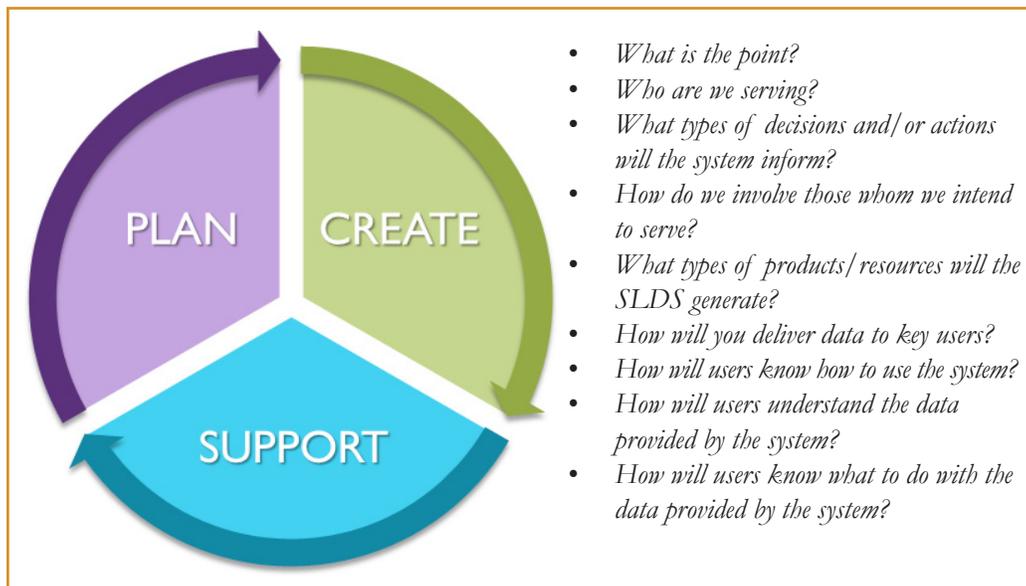


Figure 1. Illustration of data use framework.

I. PLAN

Mission and Goals

What is the point?

The first step of planning an SLDS data use strategy is to determine the mission and goals of the SLDS. The mission should describe what you are trying to achieve (i.e., the extent to which data will be used), and the goals should capture the attainments necessary to realize this mission. For example, if the mission is to ensure all students successfully transition from one level of education to the next, one of the goals could be for all elementary school principals to use data to inform their curricular and human capital decisions to ensure their students are prepared for middle school.

Developing a mission and goals that are succinct and concrete can be challenging. One way to work through this process is to create a logic chain, which is an explicit theory or model of how an intervention (such as a project, a program, a strategy, an initiative, or a policy) contributes to a chain of intermediate results and finally to the intended outcomes.¹ The logic chain is comprised of the inputs, process, and short-term outcomes that lead to the intended impact. A generic, high-level logic chain for a P-20W

¹ Excerpted from Developing Logic Chains (Program Theory, Logic Models), Seminar at the University of Johannesburg, Department of Public Governance Johannesburg, South Africa 18 February 2011. Professor Patricia Rogers, Patricia.Rogers@rmit.edu.au.

<http://www.nj.ac.za/EN/Faculties/humanities/departments/publicgov/Documents/Prof%20P%20Rogers%20How%20to%20develop%20logic%20chain%20models%20for%20evaluation.pdf>

This product of the Institute of Education Sciences (IES) Statewide Longitudinal Data Systems (SLDS) Grant Program was derived from an SLDS working group session on data use that took place in February 2013. The information presented does not necessarily represent the opinions of the IES SLDS Grant Program. We thank the following people for their valuable contributions:

Workshop Presenters

Corey Chatis
SLDS Program, State Support Team

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>.



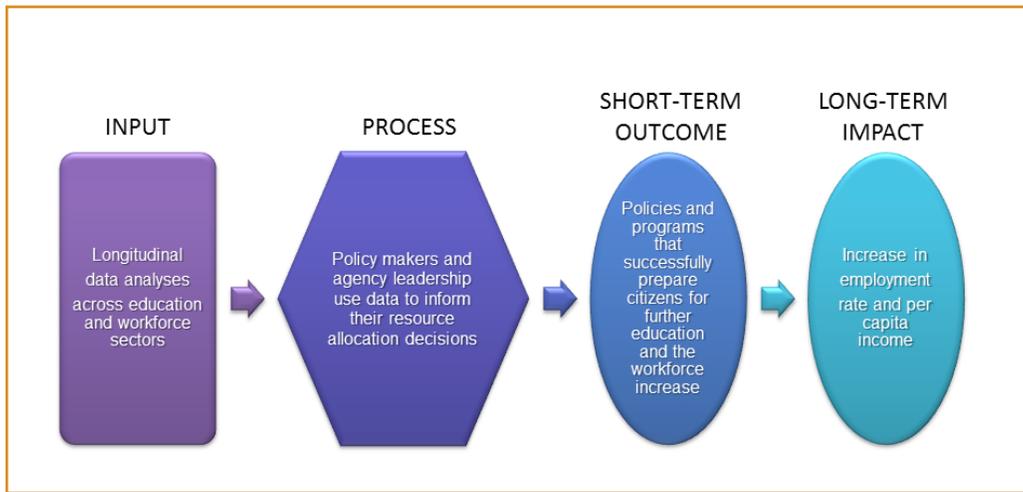


Figure 2: Excerpt from a sample logic chain.

SLDS could be the following (See Figure 2 for an example of a generic, high-level logic chain for a P-20W SLDS):

The clear, measurable goals defined in the logic chain should be supplemented by a timeline. Logic chains and timelines help to define success and are useful for sharing the vision and progress with funders and other stakeholders. They are also beneficial for referring back to when refocusing work, assessing progress, and determining next steps. All subsequent decisions regarding the data use strategy should be anchored to the established mission and goals.

Identification and Prioritization of User Roles

Who are we serving?

With the mission, goals, and high-level logic chain in hand, the next step in planning is the identification and prioritization of user roles. Although the ultimate beneficiaries of the SLDS are students (as served by the decisions and actions that the SLDS supports), this step refers to the direct users of data from the SLDS.

To begin identifying user roles, it helps to list all current and potential SLDS users, such as researchers, policymakers, legislators, local and state administrators, principals, teachers, parents, students, and the general public. Then, refer back to the mission, goals, and logic chain and consider which roles must be served to meet each goal. Each of the goals and the associated user roles should be considered. If data use by a particular role is not critical to achieving the goals, then that role can be deprioritized or excluded from the data use strategy.

Once user roles have been identified, begin prioritizing the list by considering the following questions:

- What types of decisions does each user make or inform that have an impact on the goals established above?
- Will the SLDS have the data (including content, granularity, timeliness) relevant to serve these roles?

Use the answers to these questions to identify your top priority user roles. Prioritizing user roles ensures that often limited resources are used to serve and support the highest impact users throughout the data use strategy, and increases the likelihood of meeting the overarching goals of the effort.

Identification of Uses

What types of decisions and/or actions will the system inform?

Once the top priority user roles are identified, it is important to clarify how they will use the SLDS data to inform their decisions and actions. Consider creating a set of more specific logic chains that depict how each role's use of data is intended to develop in support of the broader mission and goals.

These logic chains should include the specific process(es) through which the user will make decisions that are informed by data and will ultimately support the intended end goals. For example, if legislators are a top priority user group, articulate which legislative processes (e.g., budgeting, oversight of state-funded programs, etc.) the SLDS data will inform. Detailed logic chains will provide a clear strategy and support communications around whom the systems will serve and why these users are critical to achieving the overarching goals.

User interviews are a valuable way to help identify important data uses by informing the SLDS core team's understanding of users' current context. Interviews should include

questions about the type of data users have access to, how they access the data, how they currently use data, and their available resources. During interviews, request specific examples of data use and (if possible) make firsthand observations of the users in action. Additionally, aim to understand how data could be applied within the users' current context. For example, aim to determine which core processes of their work could be informed by data. Also ask users to consider what information they do not have access to but would support their current decisionmaking.

The data use “hooks” of the high-impact user roles should also be identified. To determine hooks, ask users what type of data will get them excited and help them to improve their work; where there are areas of challenge in their work; and who they need to convince, move, or inform. Once identified, consider whether the hooks would be actionable and relevant if the data were to be supplied for them.

After current and potential uses are collected by role, evaluate whether you will have data that will be appropriate and relevant to those uses. Note that usability includes the granularity, frequency, and quality of data required to appropriately inform the identified decisions and/or actions. Also consider the users' daily, yearly, and monthly cycles of work to determine whether you are able to supply data to them in a timely manner. For example, annual snapshots of data are not particularly useful for informing teachers' instructional decisionmaking. Similarly, to inform staffing decisions, principals need to receive human capital data during a specific time of year.

2. CREATE

Stakeholder Engagement

How do we involve those whom we intend to serve?

Stakeholders should be involved in every step of the data use strategy, including the initial planning. However, to ensure that these resources are responsive to users' needs, it is critical to involve stakeholders before you begin planning the resources that will be generated by the SLDS. Creating a stakeholder engagement plan will help to ensure you are strategic regarding whom you engage, how you engage them, and for what purpose.

At the beginning of any stakeholder engagement effort, it is important to communicate the effort's mission and key goals so that stakeholders understand their part in the broader effort. Ensure that you explicitly set expectations for the engagement with each group, including what will be provided to them, what you would like from them, and what you will do with the feedback they provide. Be clear about

whether you are simply communicating about the effort, or asking for input that will be used to inform the system. Whenever you ask for input, ensure that you conduct timely follow-up with the stakeholders so they can see the results of their feedback.

To increase your outreach and reduce the risk of overwhelming stakeholders, leverage existing communication mechanisms that are of high visibility and value to the roles you are targeting, including committees, standing meetings, listservs, social media, and newsletters.

Products/Resources

What are we creating?

The planning stage culminates with the development of data resources from the SLDS. The detailed logic chains and feedback from stakeholders should guide the prioritization of resource development. Begin by creating resources on the data that are of highest need to your users and that most directly support the intended goals for that user role. Each resource created should be designed for specific users and uses that were identified in the planning phase.

When selecting the data reporting, presentation, and other tools, keep in mind the targeted users' technology skill levels and population size. For example, business intelligence tools might be beneficial for power users but can overwhelm others. To address the range of expertise among user groups, most states implement a limited suite of data reporting and analysis tools.

Also consider your users' preference for the degree of user-driven inquiry. Some users prefer to drive the inquiry process and want to be able to slice, dice, and dig down into many levels of data across several domains, while other users prefer to access a pre-defined dashboard with key metrics. The ways in which the data are displayed and interacted with should align with the type of question the data are meant to address. In other words, straight forward, simple questions are best addressed with simple graphical displays, while more nuanced questions—requiring longitudinal analysis across multiple domains—necessitate a more dynamic presentation of data.

To increase the impact of the resources, consider developing and rolling them out in clusters, with each cluster focused on a particular goal of the SLDS, but spanning multiple user roles. Having a definitive set of resources that aims to address the same outcome will create an aggregate effect that is greater than the sum of its parts.

Delivery

How do we get it to users?

When designing the delivery of the data use resources, consider the users' current work context as gathered from user interviews and other stakeholder engagement activities. Use this information to develop a rollout plan that helps ensure that the resources created from the SLDS are actually received by the intended users in a way that is low burden and intuitive to them. The rollout plan should include a communication plan and be timed based on the users' calendar and work cycles, avoiding times when users are simply too busy to pay attention to the data.

Conducting a pilot rollout is an underused and highly effective means of gauging how well the resources will meet the intended users' needs before going state-wide. It is a way of soliciting targeted, valuable feedback that, if used well, greatly increases the success of the full implementation.

After the initial rollout, identify the hooks that prompt usage: assess what makes users first access the tools and what makes them continue to return to the tools. Consider conducting targeted feedback sessions with stakeholder groups to capture how they use the resources, then disseminate these use cases among their peers. Usage analytics are another valuable way to gauge uptake more broadly. This knowledge is essential for sustaining momentum, offering support, and making enhancements.

3. SUPPORT

User Support

How will users know how to use the system?

Users should be trained on how to use the data system and its resources. Delivery methods may include in-person presentations, webinars, online recordings, and publications. Best practices suggest that during system training, participants have access to their own data (if available). Combining system and data use training allows the data to become a motivation for learning the system, instead of a distraction.

Documentation is another critical resource for user support. Ensure that all system documentation is written with the intended user in mind, and vetted by representatives of that user group to ensure that it is clear and accessible. Thorough documentation will also reduce the user support burden on SLDS staff.

How will users understand the data provided by the system?

Data use training is essential to help users, especially those with limited prior experience in using data, to

understand and use the SLDS resources appropriately. Training should encourage users to see the data as the start of the investigation, not the endpoint. In other words, answering one question with evidence should lead them to ask additional questions to more fully understand the issue. This approach can also help to prevent premature jumps to causation.

Data use training is an opportunity for the SLDS team to partner with other agencies or programs within their own agency—those who oversee the policies or programs with which the SLDS data use strategy is aligned. Best practices suggest that content experts lead data use training, which will help model that data use is about improving policy and practice, and that data are not just for data's sake.

How will users know what to do with the data provided by the system?

The ultimate purpose of a data system should not be simply to inform but to spur users to move from information to action; that is, to do their work differently as a result of having evidence to inform it. However, using data to change behavior is a cultural transformation for many, and therefore requires significant support. Data use trainings should help users to consider what they are going to do once they know more and include access to resources for improving their practice (e.g., quality, targeted professional development, mentoring opportunities with peers, research on best practices, etc.). The mission, goals, and logic chains should be shared with users to help them understand how their role fits into the broader goals of the SLDS effort.

The SLDS core team is unlikely to have the resources or expertise to support this type of training on its own. To increase capacity, pursue partnerships with other agencies or organizations that already work with your users and share your end goals, such as institutes of higher education and nonprofits, teacher preparation programs, and other state agencies. Also consider partnerships with other program areas within the agency such as professional development and curriculum and instruction. Partners should be able to help users understand the data, transform information into knowledge, and put the knowledge into action.

Evolution and Sustainability

How do we continue to support users and their needs as they expand and evolve?

The SLDS should be positioned as an ongoing and responsive resource for its top priority user roles. Ideally, the initial rollout will help increase demand from users—whose data use needs will change and expand continually. Core team members must stay up-to-date and anticipate emerging

education, workforce, and economic development issues and policies to ensure that the SLDS is established and maintained as an invaluable information source.

To be responsive, develop mechanisms to track users' changing needs. Ongoing communication and feedback from user groups ensures that their needs are identified and that the SLDS stays relevant. Ask users how, and if, the system is supporting their needs, and what information they predict they will find useful in the near future. Employ regular communications to convey the enhanced and new resources from the SLDS.

Along with anecdotal feedback, take into account usage metric reports on the data and the system. Consider the percentage of the user population engaging with the system, their frequency and timing of use, their length of use, and the impact of their use (i.e., How has it helped them move toward and achieve their goals?). The reports can offer insight into the highest demand resources, and can be used to highlight examples of active engagement with the system. These use cases, with both qualitative and quantitative proof, can be used to communicate the value proposition of the SLDS, and to develop an SLDS overview package to inform new leadership when the administration changes.

How do we make the system an essential resource for users?

Best practices suggest that one way to help ensure the sustainability of an SLDS is to make the system essential to users. Employ the user feedback and usage metrics

referenced above to identify the data that key user roles consider essential and how they are using them in support of the broader goals. Capture user explanations of how the system supports them in their work and disseminate these vignettes as part of the marketing effort. Additionally, all SLDS resources should be branded so that users are aware of the full array of resources created or informed by the SLDS.

How do we ensure we have the resources to continue meeting users' needs?

Another critical aspect of sustainability is securing the necessary in-house and contractor/vendor resources required to stay responsive to users' needs. An effective help desk that resolves user questions is essential to assist in increasing initial buy-in and continued use of the SLDS. Use help desk queries to track user needs, create FAQs, and incorporate common issues into user trainings. Business analysts and report writers are another important asset, especially as the demand for data grows.

As the user base increases, resources—both fiscal and in-kind—should be identified to ensure adequate support for this larger user population. Expanded user populations often means higher licensing costs, which should be factored into maintenance funding requests. States are beginning to commission Total Cost of Ownership (TCO) studies to ascertain the long-term level of effort required for the SLDS. Support is particularly important for SLDSs that are serving teachers for the first time—this large user group may consist of 6,000 to 250,000 individuals, depending on the state.

Additional Resources

Data Use Workshop Self-Assessment and Action Plan (2013). Available at:

http://nces.ed.gov/Programs/SLDS/docx/Data_Use_Workshop_Self_Assessment_and_Action_Plan.docx

Stakeholder Engagement Toolkit (2013). Available at:

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

Identifying SLDS Users and Uses: SLDS Brief (2013). Available at:

<https://nces.grads360.org/app/Default.aspx>, Note: navigate to Technical Assistance > Documents and enter title in keyword search window.

Data Use Through Visualization and Storytelling (2013). Available at:

http://nces.ed.gov/programs/slds/webinars.asp#MW_June_2012_01

Traveling Through Time: Forum Guide to LDSs, Book III: Effectively Managing LDS Data (2011). Available at:

<http://nces.ed.gov/pubs2011/2011805.pdf>

Traveling Through Time: Forum Guide to LDSs, Book IV: Advanced LDS Usage (2011). Available at:

<http://nces.ed.gov/pubs2011/2011802.pdf>

For non-proprietary documents related to LDS work conducted by state and local education agencies refer to the following:

LDS Share. Available at

<http://nces.ed.gov/programs/slds/LDSShare/SLDS.aspx>, Note: navigate to Data Use > Data Use Training;

Public Domain Clearinghouse. Available at

<https://nces.grads360.org/app/Default.aspx>, Note: navigate to Technical Assistance > Public Domain. Clearinghouse > Documents