

## Core Elements Completion for Establishing a Statewide Longitudinal Data System

The following checklist helps to identify the status of core elements for establishing a statewide longitudinal data system, designed to serve as a decision support system. It helps to map and detail which core elements have been completed by the State Education Agency (SEA); which have been funded and are in the process of being completed; which are planned and funded to be completed in the future; which are desired by the SEA but do not have available funding; which are not desired; and for which the SEA is currently trying to locate/secure funding.

Core Elements for Establishing a Statewide Longitudinal Data System	Completed	In Process	Planned & Funded	Desired but lack Funding	Not Desired	Desired and Seek Funding	Detail Description
1. Analysis of the business needs (multiple reporting and decision support needs) of key stakeholders, including the State, districts, school boards, schools, teachers, parents, students, the public, and other constituents							
2. Cataloging current and planned local data collection methods and data structures							
3. Designing statewide longitudinal data systems architecture							
a. Including in data model the business needs of key stakeholders, who participate as data providers and users, and whose needs should determine the data types and items to be maintained in the system, years of data maintained, and data quality achieved (all of which define the breadth and depth of subsequent possible analyses)							
b. Developing effective data quality assurance system, that contains:							
i. Data dictionary, with well defined content and common definitions for data elements <sup>1</sup> , to assure the same definitions, codes, and periodicity across all schools in the State, at data entry points							
ii. Business rules for data format, acceptable values, missing data options, and logical comparisons to prior data							
iii. Automated data edit processes to verify data quality and to ensure that rules are met before allowing data into the State's data system							
iv. Systems and procedures to assure correct utilization of data by the users and providers							
c. Developing an effective, statewide data model that defines and describes the logical and physical relationships between data items and systems, and system structure that allows efficient data maintenance and retrieval (containing relevant and linked current and historical data)							
d. Assuring secure access to data and formal reports to protect the confidentiality of individuals, in compliance with FERPA and the statistical reliability of results							

<sup>1</sup> See Forum Data Definitions Handbook for an example of standards.

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e. Structured to enable efficient data extraction for time-based analyses							
f. Allowing modifications and enhancements to the system's data and architecture, including system expansion over time							
4. Creating, assigning, and tracking a unique, permanent student identifier assigned at state level							
a. Allowing the matching of individual student records across databases and years for every student enrolled in preK-12 state education system (using an automatic system creation of IDs or an individual creation through direct online interaction with ID system)							
b. Allowing for program evaluation (including potential capacity to track students past the 12th grade)							
c. Allowing for student record transfers among States when students move across state borders (requiring inter-state agreements and compliant with FERPA regulations)							
5. Planning and implementing data collection							
a. From districts and/or schools so that the SEA can incorporate data in the system for all students, classrooms, and schools under the SEA's jurisdiction, including:							
i. Development of collaboration among all parties within the SEA and between the SEA and school districts in data collection, reporting, and dissemination							
ii. Provisions for the needs of districts that have limited ability to participate in technology systems							
b. Conducting cost/benefit and sustainability analyses of dynamic vs. static data extraction systems (data entered directly by school personnel into the statewide system, with instantaneous error feedback vs. data files imported from districts on a periodic basis)							
c. Shortening reporting time and increasing the accuracy of student assessment data (e.g. through technology-based assessments)							
6. Implementing statewide longitudinal data system (warehouse)							
a. Development of the system according to the designed architecture							
b. Testing of the system							
c. Going live							
7. Designing, using, and maintaining business intelligence tools (analytical & reporting)							

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a. Streamlining reporting capabilities to local, state, and federal agencies, using pre-defined, automated reports (including for EDEN, NCLB, NCES, and the public)							
b. Supporting:							
i. Multiple reporting and analyses needs of different stakeholders							
ii. High-level longitudinal analyses, required for data-driven decision making by policymakers, educators, and members of the public							
c. Providing timely, accurate, and user-friendly dissemination of the needed data, reports, and analyses results to:							
i. Parents/guardians and students							
ii. Teachers							
iii. Schools							
iv. District administrators							
v. State officials and administrators							
vi. Universities/colleges and the business community							
vii. The public							
d. Engaging in longitudinal education research to inform policy and decision making							
e. Leading the State, districts, and teachers in the development and use of innovative analytical tools and reports to inform policy and decision making							
8. Establishing logistical capacity to create and maintain a statewide longitudinal data system							
a. Developing efficient administrative processes, infrastructure components, and policy commitments for effectively implementing the maintenance of the statewide longitudinal data system, regarding:							
i. Assuring continued data collection and quality							
ii. Assuring continued dissemination of data and analyses results							
iii. Assuring data security and confidentiality, including addressing potential concerns of stakeholders about student privacy in automated systems							
iv. Assuring continued funding							
v. Assuring continued adequate human resources							
vi. Assuring continued enabling legislation							
vii. Assuring the continued adequacy of hardware, software, and networking capabilities							

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b. Assuring sustainability and effectiveness of the system by:							
i. Assuring administrative buy-in							
ii. Assuring qualified staff, training, technical, and other resources dedicated to the State’s administrative technology over the long term to ensure the system’s continued effectiveness (including the commitment and ability of staff to implement, use, and continually develop the data system)							
iii. Developing a strong plan for the SEA and other stakeholders to continually evaluate and improve the effectiveness of the data system and of associated processes, both in their reporting and decision-support functions, and to periodically assess the degree to which they meet agency and other stakeholders’ needs							
c. Involving and supporting stakeholders by establishing and/or facilitating the existence of:							
i. A policy advisory committee that includes representatives from each key stakeholder group							
ii. A data provider/collection group							
iii. A data user group							
iv. An internal agency coordination group to oversee data collection, management, and dissemination							
d. Planning and funding initial and ongoing, efficient and effective training of key state and local data collectors and users, according to their functional needs, on:							
i. Data Entry, Cleaning, and Transfer							
ii. Data Extraction							
iii. Unique Student ID System							
iv. Business Intelligence Tools and use of data for decision making							