



STATE OF CONNECTICUT
STATE BOARD OF EDUCATION



TO: Clerk of the Senate
Clerk of the House of Representatives

FROM: Dr. Dianna R. Wentzell, Commissioner of Education 

DATE: March 21, 2019

SUBJECT: Statewide Student Information System: A Feasibility Report

In accordance with Public Act 17-220, enclosed is a copy of the report entitled *Statewide Student Information System: A Feasibility Report*.

If you have any questions, please contact Laura Stefon, Chief of Staff at (860) 713-6493.

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Enclosure



Statewide Student Information System:
A Feasibility Report

March 2019

*Connecticut State Department of Education
450 Columbus Boulevard, Hartford, CT 06103*

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Introduction

Most districts and schools in Connecticut use student information system (SIS) software to collect and manage student data. These systems provide capabilities for registering students in both schools and courses, documenting transcript information, cataloging assessment results, tracking student attendance, building student schedules, and managing other student-related data.

Connecticut is a local-control state. Though school districts are required to complete compulsory, standardized, annual and point-in time reports to the Connecticut State Department of Education (CSDE) across various data domains (e.g., enrollment, attendance, discipline, special education, educators) to satisfy federal and state reporting requirements, they are not required to use a common SIS platform to collect those data. Districts have, over the years, evolved to use a variety of information systems to manage their data needs; even when using the same SIS, districts have customized them extensively to meet their specific local needs.

[Public Act 17-220](#) required the CSDE to conduct a survey of local and regional boards of education regarding their use of student information systems. The state law asks the CSDE to compile the results of such survey and submit a report on its findings to the Connecticut General Assembly. As part of this report, the CSDE is asked to offer any recommendations regarding the statewide implementation of uniform SIS software.

Data Sources

To evaluate the feasibility of a statewide SIS, the CSDE adopted a comprehensive approach. In addition to a survey to ascertain the SIS software used by local school districts, the CSDE sought to gauge the level of support among districts for a statewide SIS and ascertain the perceived benefits and potential pitfalls for districts in the adoption and implementation of a statewide SIS.

Data were collected from the following four sources:

1. SIS Workgroup: The CSDE gathered staff from a representative sample of twenty school districts. These districts varied based on student enrollment, district type, and local SIS used. Data and information technology staff from these districts were invited to participate in this SIS workgroup. The purpose of this workgroup was to provide valuable feedback on the scope of the project and input in the development of the online survey.
2. Online Survey: The CSDE disseminated an online survey to all superintendents. The survey sought to identify system preferences, district data needs, and district perceptions regarding the implementation of a statewide SIS in Connecticut. Superintendents were instructed to complete the survey within thirty calendar days and to seek the expert feedback of current data managers and IT staff in their districts with state reporting responsibilities.
3. Superintendent Group: CSDE staff met with members of the Connecticut Association of Public School Superintendents (CAPSS) Technology Committee to share preliminary findings from the survey and gather their feedback and support for a statewide SIS.
4. North Carolina Perspective: Lastly, CSDE staff interviewed the Director of Technology for the North Carolina Department of Education who weighed in on her state's implementation of a statewide SIS.

Results

Local Student Information Systems

In total, 152 districts responded to the survey administered by the CSDE. This represents a district-level response rate of approximately 75 percent. Across districts statewide, the survey was completed by a variety of staff that included superintendents, assistant superintendents, chief information officers, directors of technology, SIS supervisors, operations managers, and data managers. Among all respondents, 151 districts reported that they use a local SIS to manage student data.

As a local control state, school districts retain the right to purchase their own information and learning management systems and supplemental software applications to meet the reporting and analysis needs of their respective districts. Of all respondents, 76.2 percent use PowerSchool as their student information system. Additionally, 6.0 percent use Administrator Plus and 4.0 percent use Infinite Campus. Ten percent of districts use a variety of other SIS software such as Aspen, eSchools, Illuminate, and Tyler (see Table 1).

Table 1: Current Selection of Local SIS Vendors

	Number	Percentage
Administrator Plus	9	6.0
FileMakerPro	2	1.3
Infinite Campus	6	4.0
Power School	115	76.2
Rediker	5	3.3
Other	14	10.00

Nearly two-thirds of all local education agencies have been long-standing customers of their current SIS vendor; 65 percent of responding districts indicated that they have been using their current local SIS for a total of seven years or more.

Local SIS Contracts and Hosting

LEAs generally have multiyear contracts with their SIS vendors. An overwhelming 92.1 percent of all responding districts with an SIS currently have an existing contract with an SIS vendor. Most contracts expire between 2018 and 2020. Any implementation of a statewide SIS needs to recognize that districts may need multiple years to finish up their local contracts and minimize any financial loss.

Of all respondents, 39.5 percent host their local school information system at their district while 57.9 percent indicate that their SIS is hosted by the vendor. Even when LEAs are using the same

SIS, the hosting arrangements could be substantially different. For example, among districts that reported using PowerSchool, 56 percent are hosted by the vendor while 44 percent are hosted by the district.

Supplemental Modules

In terms of supplemental or add-on modules, 66.9 percent of districts indicate they currently purchase an Individualized Educational Program (IEP) software, 49.0 percent purchase meal-program eligibility product add-on, 46.4 percent purchase student assessment software, and 26.5 percent use a transportation-route management product. Approximately 35 percent of respondents reported having purchased other product add-ons or supplemental modules to assist with student registration, student health tracking, library management, student discipline, student attendance, 504 plans, SNAP, supplemental data analysis, and/or custom reporting (see Table 2).

Table 2: Statewide LEA Purchase and User of Supplemental Data Modules

Supplemental Module Use/Purchase	Count	Percentage
English Learners (EL) services	10	6.6
Individualized Education Program (IEP)	101	66.9
Meal Program Eligibility & Management	74	49.0
Other	53	35.1
Student Assessment	70	46.4
Transportation Route Management	40	26.5

School Interoperability Framework (SIF)

The School Interoperability Framework (SIF) is a standard structure for organizing and communicating education data. It serves as a data collection tool that synchronizes and transmits real-time data contained in local student information systems to the CSDE without requiring manual uploads. By expecting data to be clean and accurate in the local SIS, SIF increases data accuracy and reduces the data entry and reporting burden on local districts.

The CSDE has made the SIF tool available to local education agencies, specifically districts who have selected PowerSchool as a vendor. Approximately 67 percent of all responding districts indicated that their local student information system is SIF enabled. Among all districts with a SIF, approximately 50 percent used SIF recently to submit data directly from their local SIS to the CSDE’s Public School Information System (PSIS) collection, 42.4 percent used the tool to complete the ED166 disciplinary offense data collection, and 44.4 percent used SIF to complete the Teacher Course Student (TCS) collection. By contrast, in Massachusetts, 87 percent of all districts are submitting data using SIF (see <http://www.doe.mass.edu/infoservices/data/sif/>).

District experience with the use of SIF in Connecticut indicates that there is much room for improvement. Only about 40 percent of SIF users rated the *ease of use* as Good or Excellent while less than 40 percent rated their *overall SIF experience* as Good or Excellent (Table 3).

Table 3: District Rating of SIF Experience

Rating	SIF Ease of Use	SIF Overall Experience
Excellent	7.1%	6.3%
Good	33.7%	30.2%
Average	33.7%	32.3%
Poor	17.3%	21.9%
Terrible	8.2%	9.4%
	100.0%	100.0%

Over 25 percent of SIF users rated the *ease of use* as poor or terrible while over 30 percent of SIF users rated their overall experience as poor or terrible. Potential areas for improvement include the incorporation of more error validations directly within SIF, greater technical support from CSDE, and more robust documentation.

User Access

Quality education relies, in large part, on professional educators and parents having access to information, resources, and tools. Across the districts surveyed, the number of authenticated local SIS users ranges from fewer than 100 to tens of thousands. The variety of users accessing

the system include central office administrators, building administrators, teachers and instructors, school building clerks, business managers, guidance counselors, truancy officers, paraprofessionals, parents, and students.

Desired Features in a Statewide SIS

Overall, a very strong majority of the respondents indicated that a statewide SIS should provide them with the ability to leverage and analyze data, create and share custom reports, customize the statewide SIS for local needs, purchase additional modules if not provided in the state SIS, be compatible with additional software, and be in compliance with federal and state reporting requirements (Table 4).

**Table 4: Desired Features in a Statewide SIS:
Percentage of Districts that Agree *Strongly* or *Moderately***

Desired Features	Percentage of Districts
Leverage and analyze data directly from a statewide SIS for district use	92.4
Create and share custom reports within district and with other districts	92.3
Customize a Statewide SIS for their local needs.	93.8
Purchase additional modules if not all needs are provided in the base product	86.1
Be compatible with additional systems (e.g. IEP, financial management, parent portal)	97.2
Be Compliant with state reporting requirements and ease reporting burden	97.2
Produce all federal reporting requirements (e.g. Civil Rights Data Collection)	97.2

However, a much smaller majority of respondents (57.2 percent) strongly or moderately agreed that the adoption of a statewide SIS in Connecticut would prove significantly beneficial to their district. Over 21 percent of all respondents disagree (either slightly, moderately, or strongly) that a statewide SIS would be beneficial. While the education software industry has seen great strides in recent years in the quality of the software offerings to schools, districts and states, no product serves every educational entity directly off the shelf. System customization allows for some level of modification of a product to suit local needs. Though a majority of the districts use

PowerSchool as their SIS, they are not necessarily comparable because of the wide array of customizations that districts have implemented. This critical need for flexibility and customization was expressed loud and clear by almost all of the twenty participants of the SIS workgroup, in several survey responses, and by superintendents.

SIS Costs

Costs commonly associated with a student information system include, but are not limited to base contractual fees, per student data costs, training, system implementation, and hosting fees. To gauge the contractual and associated costs currently incurred, districts were asked to provide the approximate total annual expenditure for their student information system; districts were instructed to include all associated costs inclusive of licensing, maintenance fees, hosting and user training. Among the 115 districts that reported cost information, the median annual cost was \$21,000 and the total reported cost was approximately \$3.6 million. The wide variation in current SIS expenditures is likely attributed to the variance in district size (e.g. students and staff) and the modules purchased.

Superintendent Feedback

Superintendents from the CAPSS technology committee were provided with a high-level overview of all collected survey results as well as the formal survey instrument. After a comprehensive review of both items, the superintendents emphasized the following points:

- There must be clear, explicitly articulated needs and problems that can only be solved by a statewide SIS.
- The State of Connecticut should cover the entire cost of this system.
- If a statewide SIS is implemented, CSDE snapshot reporting requirements should be streamlined to reduce reporting burden on districts.

- A single instance of the current most prevalent local SIS vendor could help facilitate easy record transfer.
- It may be difficult to implement a uniform state SIS given the highly customized local SIS landscape. There are instances where multiple districts currently use the same third party vendor, but the instance of the product looks and works differently in each of the districts because of extensive customization.
- It may cost districts a lot of time (at least a couple of years) and money (potentially tens of thousands of dollars) to properly convert to a new SIS platform.
- Any substantive conversations referencing a statewide implementation would need to consider interoperability with multitude of other systems (e.g., IEP, meal point of sale system, transportation).
- Conversion timeframes must allow one-year for a “data cleansing” process.
- District staff should be tapped to weigh in on any further implementation discussions and projects that would inevitably impact their work; existing vendor user groups should be leveraged.

Feedback from North Carolina

A few years ago, North Carolina implemented a statewide instance of the PowerSchool platform after having implemented a state-developed SIS for a decade prior to that. A conversation with the Information Technology Manager for PowerSchool at the North Carolina Department of Education provided the CSDE with further insights on the implementation of such a uniform system. Some of the key lessons learned from North Carolina include the following:

- Implementing a statewide SIS is no easy feat and requires strategic state-level coordination.

- The State team must seek out a SIS vendor product that is designed as a statewide product and not a local SIS disguised as a state-level product. Integrating the statewide SIS with state-level unique ID generation system and school/district directory system must be well planned.
- District buy-in and input from the very early stages of selecting a vendor will ensure that most district data needs are met through the process.
- Considerable time must be spent constructing a detailed contract with the vendor that fully specifies the process by which all change items, technical builds, hosting, and data migrations will be conducted by the vendor including the timeframe for all work and upfront associated costs.
- The state will still need to have a data warehouse to take snapshots from the transactional data for reporting and accountability.
- Prior experience with implementing a homegrown statewide SIS for a decade was extremely critical to the transition to using PowerSchool.
- A statewide SIS requires a substantial annual cost outlay. A dedicated funding commitment of several million dollars annually is necessary for a planned, uninterrupted implementation.

Discussion

A statewide student information system has many advantages. It allows for the enforcement of state-level data validations right at the time of data entry, thus improving data quality. It can facilitate the electronic transfer of complete records when students move from one district to

another. A wide array of stakeholders can get real-time access to the most current student-level data. Some of the survey respondents expressed supportive sentiments:

- “I think for the sake of consistency and state reporting, having a statewide SIS would be practical and would save time, and hopefully money.”
- “This would be beneficial if it makes state reporting more streamlined”
- “A new system would be helpful IF 1) proper break in time over 1-2 years 2) proper training 3) a decrease in reporting and 4) no cost increase, but a savings to school districts.”

Conversely, there are disadvantages. Connecticut is a local control state composed of a wide variety of districts with a plethora of data needs and structures. A “one size fits all” product may not benefit all districts. A statewide SIS will require many districts to forgo their well-developed student information systems and transition, at some expense, to a different system. Districts may lose some flexibility in order to conform to standard practices. The legislature would need to establish a dedicated allocation to support this substantial expense on an annual basis.

Superintendents of the CAPSS technology group advised that the CSDE move slowly and cautiously to invest energy and resources in the development of such a project. District preferences and estimated timelines for full implementation will need to be thoughtfully considered. Specific district data needs must be weighed alongside the potential customization of any product selected and overall district interest/support in moving to such a tool.

Full implementation of a statewide system including all data migration activities will realistically require two to three years of concentrated work, while continuing with current collection and reporting systems in parallel. All districts must migrate to the new system; exceptions cannot be permitted as that will require development and maintenance of alternate collection systems at the state-level.

Data migration needs may vary based on the existing vendor and the districts use of the tool; highly customized instances of a product may increase the scope of data migration needs across the LEAs. Moreover, the duration of existing contracts between local districts and their SIS vendors could also impact the time frame for such a massive migration.

The following comments from the district survey express some of the concerns about a statewide SIS:

- “I have reservation about the state adopting a Statewide Student Information System for CT. The state has tried to implement new systems in the past and they did not always work. This is a concern due to the time and effort that will be involved to bring data from one system to another. There are multiple student information systems that store data differently so the integration process for all of these system would need to be considered.”
- “Each district has unique circumstances regarding the design and business practices that supports its current student information system. Implementing a statewide SIS may produce unintended consequences for districts such as mass changes in business practices and retaining of staff. Districts may not have the ability or capacity to support such change.”
- “While the thought of a statewide system that is compatible across multiple districts and platforms seems great in concept, there are other priorities that should have a greater focus. Districts throughout the State are working well together and have formed a community of learning and sharing around PowerSchool or other products without the need for State involvement. Time, energy, and funding should be focused in this area on getting the SIF working properly and consistently before tackling other projects.”
- “Our district has invested significantly in customizing our SIS to meet our needs, as well as, made huge investments in teacher training for gradebook. It would set us back substantially if we need to migrate to a new SIS. Our teachers have finally gotten to the

point where it can record grades, assessments, behavior and attendance accurately in our system. Our SIS needs go far beyond what is required in a state SIS system and we have finally gotten to a stable point with lots of enhanced features.”

- “Any SIS should be designed to accommodate all types of districts. We are a PK-8, and would not want to have a system full of high school related data entry such as PowerSchool does. It contains much that is of no use to a district such as ours.”

A statewide SIS is not the only approach to achieving some of the desired benefits of data sharing, records exchange, and longitudinal data.

- Despite varied systems, districts are already providing access for parents and stakeholders to their student information systems.
- The school interoperability framework or SIF is allowing districts to maintain local flexibilities and automate data submissions to the CSDE. SIF is also supporting local districts to exchange data with other data systems (e.g., transportation, meal point-of-sale system). Connecticut’s SIF implementation needs improvement; only about one half of all districts are currently using SIF for just one collection. User feedback with regard to ease-of-use as well as overall experience with using SIF is average at best. By contrast, in Massachusetts which is also a local-control state and does not have a statewide student information system, 87 percent of all school districts are submitting state data via SIF. If well implemented, SIF can relieve local reporting burden, improve data quality, and preserve local flexibility.
- In terms of records transfer between districts, the CSDE’s data warehouse, EdSight, contains a secure portal (*EdSight Secure*) that allows authorized users in schools and districts to gain access to historical, longitudinal data for their current students. *EdSight Secure* also offers data analytics and visualization capabilities that facilitate the use of data for improvement. *EdSight Secure* is connected to PSIS, so when a student moves

from one district to another, the new district receives the historical education records within 24 hours.

Conclusion

This report has presented many arguments for and against the implementation of a statewide student information system. If it is a priority of the legislature for Connecticut to move to a single statewide SIS, then the CSDE recommends that there be new, clear, and unambiguous legislation that incorporates many of the recommendations outlined in this report (e.g., clear articulation of need, mandate that all districts participate, extensive local customization capabilities, three year transition period). Additionally, the CSDE recommends that no implementation be mandated unless there is a dedicated, annual financial commitment for the SIS itself, as well as funding for local districts to transition to such a new system.

The implementation process should be guided extensively by local districts. It should begin with a thorough needs assessment process that is supplemented by a formal request for information from competing vendors which clearly lays out the scope of the project and specifies the additional modules that will be included with the base statewide SIS product.

Regardless of the decision to implement a statewide SIS, the CSDE should continue to make improvements to its implementation of SIF to relieve local reporting burden and improve accuracy and efficiency.