



JULY, 2021

## **The Role of States in Supporting Data Modernization and Interoperability Throughout the Education Ecosystem**

### **INTRODUCTION**

SETDA, CCSSO, and Project Unicorn all share a common belief that improving data interoperability is an important element to improving student outcomes. SETDA, CCSSO, Project Unicorn, and other organizations are collaborating through the fall of 2022 to create clear definitions, a data modernization maturity model, an online resource repository, and a series of webinars to provide a roadmap for state education agencies (SEAs) and local education agencies (LEAs). Empowered by practical examples, supporting resources, and promising practices, SEAs and LEAs will better understand how and where to begin the work to modernize their data systems, increase data security, and improve data interoperability within the education ecosystem.

### **OVERVIEW OF DATA MODERNIZATION AND INTEROPERABILITY**

SETDA is committed to empowering its national network of state educational technology leaders and private sector partners to identify and implement specific ways to leverage their purchasing power and increase vendor adoption of data standards. The aim of this multi-pronged approach is to ensure the products purchased by both SEAs and LEAs prioritize making data easily and securely available for appropriate use. SETDA's focus is on strengthening support around the interoperability movement by educating and supporting districts.

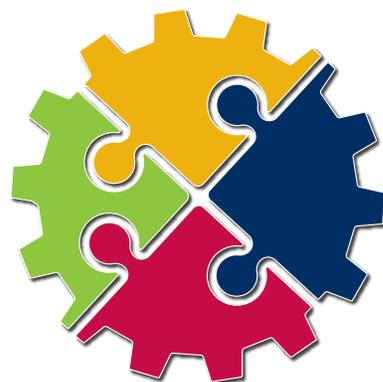
Data modernization and security practices allow educational leaders to provide accurate, secure, and timely data that can be securely exchanged, shared, and connected in order to provide instant understanding of school performance, student attendance, academic performance, or funding from multiple sources.

This matters because:

- Data modernization saves time and provides insights for a teacher who can access student-level data to be used for lesson planning or assessment;
- Data modernization empowers a superintendent who can visualize trustworthy building-level data to support long-term and short-term decision making for a district;
- Comprehensive data that is efficiently and effectively captured can be used by state leaders to support, advocate, and ensure historically underserved student populations—Black, Indigenous, and students of color, emergent bilingual, students with disabilities, and students experiencing poverty—have equitable educational access and opportunities.

### DEFINITION: INTEROPERABILITY

Interoperability is the seamless, secure, and controlled exchange of data between applications. Interoperability allows data to easily flow among applications that are developed for different purposes using a standardized vocabulary, structure, and cadence.



### EXAMPLE:

*One commonly understood example of interoperable systems and data standards is ATMs. The banking industry has adopted a data standard that allows the consumer to securely access their bank account, transfer data, and receive money at virtually any ATM in the world.*

### PROMISING PRACTICE - NORTH DAKOTA

The North Dakota Transcript Project is building a comprehensive ecosystem for the use and exchange of verifiable credentials to benefit all North Dakotans from student to educator to employer.

North Dakota eTranscripts is a free high school transcript exchange system built through the Statewide Longitudinal Data System, allowing for high schools to exchange electronic records within the state as well as to out-of-state colleges. Since the inception of

eTranscripts, over 40,000 high school transcripts have been sent, proving the state eTranscripts system saves significant time and cost, which increases efficiencies for both high school and college offices.

The Open Credential Publisher consumes this eTranscript, packages, and signs it as a verifiable credential in the widely accepted IMS Global Comprehensive Learner Record (CLR) format for higher education institutions and delivers it to a web wallet for the student. From the web wallet, students can store, combine, and share their digital credentials with interested parties. Additionally, students can choose to send these credentials to a cryptographically verifiable mobile wallet.

Using the state's Open Salt implementation of IMS Global CASE standards, cybersecurity pathways are being established to allow students, educators, and employers insight into both the verifiable skills held and those needed for specific job opportunities. Future maturation will include an Open Verifier to allow employers and higher education institutions to easily verify the authenticity of credentials they receive.

***WHEN WE HAVE VERIFIABLE CREDENTIALS FOR OUR LEARNING ACHIEVEMENTS, EDUCATION LEADERS CAN GIVE LEARNERS TRUE AGENCY OVER THE DATA THEY ACCUMULATE FROM THEIR EDUCATIONAL EXPERIENCES.***



## **PROMISING PRACTICE - WISCONSIN**

Wisconsin Department of Public Instruction partnered with Ed-Fi for their statewide interoperability initiative: *Wisconsin Information System for Education (WISE)*. Their statewide Ed-Fi infrastructure helped them quickly address digital equity issues early in the pandemic.

Wisconsin's WISEdata system was originally built to streamline the data collection process needed for state and federal reporting requirements. However, that was just the start of the journey. Because the WISEdata system is built on the Ed-Fi data model and the

Ed-Fi API as the vehicle for securely transferring data, they now have an interoperability cornerstone in place that can be scaled for statewide solutions.

With an Ed-Fi Interoperable framework in place, many new doors are now open to assist school districts with data interoperability needs that save time, improve data quality, and support teaching and learning.

Wisconsin currently uses Ed-Fi to integrate the following systems:

- WISEdata connects with specialized IEP software systems, allowing school districts to meet reporting requirements without transferring data to another system first.
- WISEdata integrates with Xello, Wisconsin's Academic and Career Planning (ACP partner, to allow student profile information to follow students when they transfer between schools and/or districts.
- WISEdata integrates with most student information systems (SIS) and the Wisconsin Department of Health Services Immunization Registry software to help school nurses collect, maintain, and share immunization records.
- WISEdata connects with MIS2000, which captures critical student migrant information that must be reported to the state. By creating the ability for LEAs to directly upload these data, the data quality increased while the amount of time to review and prepare a data snapshot for the LEAs and SEA decreased.

***WHEN WE HAVE QUALITY EDUCATION DATA, EDUCATION LEADERS CAN USE IT AS A PRIMARY TOOL TO SEE HOW STUDENTS, SCHOOLS, AND POLICIES ARE WORKING - BOTH SHORT-TERM AND LONG-TERM. OVER TIME, THE DATA SHOW THE RESULTS OF CHANGES MADE IN SCHOOLS, ENABLING EDUCATION LEADERS TO TRACK PROGRESS, MAKE ADJUSTMENTS, AND MAKE INFORMED DECISIONS.***



Data from WISEdata flows to the WISEdash data warehouse and the data are summarized, redacted, and displayed on the [WISEdash Public Portal](#) where stakeholders can view, compare, and explore statistics about Wisconsin public schools.

Wisconsin is actively developing integrations with statewide assessment vendors, such as ACT, to automate the delivery of student roster data and retrieve results. Further integrations are being developed with learning management systems such as Google to keep student roster data in sync at all times. The WISE example demonstrates the importance of identifying a specific use case to work toward when solving a problem, reviewing and identifying which standards body works best based on needs, and acknowledging data modernization is an iterative process that requires learning, unlearning, and relearning.

### CALL TO ACTION FOR STATE EDUCATION AGENCIES

- ✓ Ensure that interoperability and data privacy language are included in all request for proposals (RFP) at both the SEA and LEA levels. Take a moment to review this example from the [Los Angeles Unified School District](#).
- ✓ Invest in interoperability and data modernization efforts now to set the system up for success. Identify and create a data team whose members are familiar with state and district reporting requirements. Data team members can offer insight and expertise, assist with data review, and support constant improvement through each iteration of modernization plan.
- ✓ Learn about the four major standards bodies in the education ecosystem - Access for Learning (A4L), Common Education Data Standards (CEDS), Ed-Fi Alliance, and IMS Global. Each of the four bodies has a specialized area of education with some overlapping sectors. It is important to understand how standards bodies work in order to inform your decisions about which standards body will provide the best fit and most effective support for your standardization plans.

This work is funded by the Michael & Susan Dell Foundation.

