

# DATA SYSTEMS MODERNIZATION



Putting Montana Students First **A+**

# A BRIEF HISTORY

The very first sentence of “[20-7-104, MCA](#) Transparency and public availability of public school performance data -- reporting -- availability for timely use to improve instruction” reads:

**The office of public instruction's statewide data system must, at a minimum:**

**(a) include data entry and intuitive reporting options that school districts can use to make timely decisions that improve instruction and impact student performance while creating a collaborative environment for parents, teachers, and students to work together in improving student performance.**

# 30+ DATA SYSTEMS

The MCA goes on to list a number of other specific data elements that districts must report to the OPI or display on their district's website. These data are collected in various data systems.

The OPI uses a commercial-off-the-shelf system called Achievement in Montana, or AIM, to collect most of the student-level information. Fiscal and staffing information comes from other distinct systems that are custom-built and supported and maintained by OPI technology staff, including:

# MAJOR DATA SYSTEMS

TEAMS – Terms of Employment, Accreditation, and Master Schedule – Program and course offerings, teacher assignments and certifications and employee information.

MAEFAIRS – Montana Accounting and Education Finance Information Reporting System – Financial and expenditure information.

MSEIS – Montana State Educator Information System – Educator licensing information.

Central – School district contact and demographic information.



# GEMS AND SLDS

Over the past 10 years the OPI has built a statewide longitudinal data system (called GEMS) to store and publish the public aggregate information and also allows for schools to securely see their student level information they have reported.

The OPI also built an analytics tool called EWS that some schools (~100) have chosen to use to help facilitate the early identification of students who are at risk of not graduating. However, it falls short in creating a collaborative environment and is not adaptable for other uses and becomes less effective below 7-8 grades. It also requires an extract from their SIS and upload to the State SIS.

# THE CHALLENGE

The challenge has been to easily facilitate access to the day-to-day data needed to truly inform and impact student performance and foster a collaborative environment.

The provision in MCA that provides for “the collection of data from schools through a process that provides for automated conversion of data from systems already in use by school districts or the office of public instruction...” has been a barrier.

Anyone with any experience in technology and data will tell you that the more you have to convert and exchange data between disparate systems, the harder it is to do that efficiently and effectively. Laws and regulations change, collections change, systems need upgrading and keeping the choreography of it all working together consumes much of technical resources here at OPI and districts.

# MONTANA K12 DATA SYSTEMS MODERNIZATION PLAN

**What?** Single or at least fewer comprehensive system(s) that efficiently and effectively enable the use of data and technology to drive decisions, policy and accountability that supports learning, wherever and however that best supports students.

**How?** By collecting and managing student, educator and fiscal data in an efficient and cost-effective manner across the ENTIRE state. A single system likely doesn't exist (yet) for every function but education system vendors have been headed in the same direction as vendors who sell similar systems to municipalities and companies – “Run your entire (fill in the blank - company, school, city) on our single system.”

**Why?** Comprehensive system(s) that use of data to drive decisions, policy and accountability. Getting to fewer systems is less expensive to operate in the long-term and eliminates areas of dual entry or duplicative function and creates automation where it is needed. When looking at the State as a whole (OPI and ~300 districts/systems) doing so can go a long way towards reducing the duplication and enabling automation. That leaves more resources that can be devoted to students and the work of educating and teaching.

# MODERNIZATION APPROACH

Approach modernization by breaking it into three major areas makes it more manageable:

- Student Management
- Educator Management
- Finance Management



# 1. STUDENT MANAGEMENT

Implement a true state-wide student information system (SIS) that every district uses for their daily SIS use. Incorporates all functions currently performed in AIM, plus to be determined functions as identified and prioritized by districts for their day-to-day needs and learning management tools. It would also incorporate some functions currently occurring in TEAMS and MAEFAIRS to satisfy the reporting requirements of 2-7-104.

Nearly all SISs offer analytics and parent portals that can operate in real-time and integrate with remote learning platforms.

It would also facilitate the Office of Civil Right (OCR) collection. Other functions over time that could be added are Special Education and 504 plan management, MTSS management, Assessment and Learning Management. Depending on the federal grant, there will always be some student system that would live outside this due to the grant requirements but the feds are getting better about not doing that and having the functions be housed in the state's SIS.

# 2. EDUCATOR MANAGEMENT

Implement a state-wide educator recruitment and retention system that integrates with the educator licensing and professional development systems.

Recruitment and Retention (Jobs for Teachers).

Licensing (MSEIS)

Learning Hub/Professional Growth



# 3. FISCAL MANAGEMENT

A single statewide financial system for districts and OPI

eGrants

MAEFAIRS

County

Transportation

AP/AR



# DATA PUBLISHING, RESEARCH AND ANALYTICS

Most SISs now offer data analytics for student performance and engagement

The OPI data warehouse (GEMS) would focus on aggregate data and long-term trends and shift to more of a resource to the general public and policy makers and researchers.

# COSTS

**Student Management (\$3.5M Implement, \$2M per year ongoing)**

**Educator Management (\$1M to implement, \$250K-500K per year ongoing)**

**Fiscal Management (\$3M-\$4M to implement, \$500K-\$1M per year ongoing)**

# QUESTIONS?

