Overview

We are all searching for the “holy grail” in data management and usage when we get the right data to the right person at the right time to be used in an effective manner. In the world of education that means being able to get learner information in the hands of practitioners, administrators, policy-makers, parents and even the learners themselves to ultimately enable and improve the teaching and learning process. So many times this nirvana is never reached due to various political, technical and operational hurdles that get in the way.

The Massachusetts Department of Elementary and Secondary Education (DESE) with Information Technology (IT) support from the Executive Office of Education (EOE), decided to take on this task late in 2011. The overall charge of the DESE agency is to prepare all students for success after high school by addressing the Department's core strategies of:

✓ Strengthening curriculum, instruction, and assessment
✓ Improving educator effectiveness
✓ Turning around the lowest performing districts and schools
✓ Using data and technology to support student performance

Their strategy was to put actionable, real-time information with associated tools in the hands of educators reflective of what is happening in their classrooms each day. To do this, they envisioned and went about the planning and implementation of a three-component instructional improvement project plan – enter Edwin!

- **Interoperable Data System:** Move from reporting on periodic data collections to collecting on a near real-time basis
- **Data Analytics:** Build a series of reports that can be used by educators to learn about the students in their district, school and classroom
- **Teaching and Learning Tools:** Develop a suite of tools to help educators improve the personalized education experience of all students
Interoperable Solution – SIF!

The first critical component to the development of this comprehensive system needed to address the foundation of the teaching and learning process – relevant and real-time data. The Massachusetts SIF Project went operational in 2013 with the DESE agency working with their MA EOE SIF Program Team to create a Massachusetts SIF Profile on top of the marketplace embraced SIF Certification Program and state-of-the-art Visual Software Zone Integration Server (ZIS), Veracity Rules Agent and ZIAgent. The EOE IT Team was instrumental in pulling all the critical pieces together in order to make the real-time event driven SIF deployment reality. The process also required the district SIS vendors to certify they could deliver real-time reporting capabilities to the state agency via SIF. To date 153 districts SIS’s are utilizing SIF for real-time data reporting including 60% of the 234 “Race-To-The-Top” (RTTT) districts. All 406 MA Districts will be connected to the State using the real-time event driven SIF Framework by the close of 2014.

The standards, policies and procedures established from the initial initiative are designed to be rolled forward for all future annual SIF Program infrastructure, data elements, and subscribing application enhancements.

The MA SIF supports multiple applications with one real-time district connection eliminating numerous periodic batch flat file generations by the districts while reducing local and State operational, support, and reporting costs.

Data Analytics – edwin Analytics!

So now the data is all there – the question is what to do with it? Edwin has become the new umbrella under which all analytical and reporting tools are housed including ALL reports formerly included in the Education Data Warehouse.

These reports are geared to support district educators Superintendents through classroom teachers. The reports generated from this system also include Early Warning Indicator System outputs; Postsecondary Enrollment and Outcome information; Finance; Department of Higher Education; Adult Education; Early Education; and Educator Prep Programs.

There has already been an “uptick” in educators accessing these new reports, with more reports just being released. Additional reports for all levels of users are already on the calendar moving forward each month for 2014, and they have also started the rollout to the 70,000 educators in the state!

Teaching and Learning – the IIS Classroom Impact!

Now that we have the real time data and the reports that were generated from that data – what do we do with that information? Most times this is the crucial connection that has been the downfall of many large impactful projects.

"[Our] SIF implementation in MA is transformational technology in action - it opens up opportunities that we could only dream about a few years ago."

Sharon Wright, SCIO
Executive Office of Education
The MA Instructional Improvement System Edwin Teaching & Learning (ET&L) is a SaaS procured jointly via a subscription model with the Ohio Department of Education. ET&L provides an integrated set of Curriculum, Assessment, Reporting and Digital Library tools for teachers and administrators including the following state provided assets:

- 100+ Model Curriculum Units across 4 subject areas
- 5000+ MCAS Released Items
- Integration with PBS Learning Media content

All of which have been aligned to the state standards.

Specific functionality includes:

- Curriculum tools and templates
- Online assessment tools which enable the developments of formative and interim assessments that can be administered online, on paper or via clickers
- Item and assessment development, administration and banking
- Variety of analysis & reporting tools
- Tools for storing and searching internal and 3rd party digital content aligned to MA Curriculum standards
- Custom Competency Tracking tools and reports for Career Vocational Technical Education

Lessons Learned

Numerous keys to success and lessons learned have been documented in the search and delivery of this “holy grail”. Some keys include:

- **Use a Solid Innovative Technology Foundation**: Apply the “Divide and Conquer” approach - DESE partnered with MA Executive Office of Education technology experts who delivered an infrastructure framework and processes that supported Federal, State and District standards, while applying known industry leading data interoperability best practices and state-of-the-art software tools.

- **Certify, Certify, Certify**: All vendors must comply with the same data interoperability, process and interchange standards. - EOE requires all vendors to certify with the MA SIF Program and the international SIFA organization utilizing the MA SIF Data Profile before any QA testing was initiated.

- **Phase in Change**: Iterative rollout leads to challenges – There isn’t one big release party!

- **Bring Along Others**: Use different departments in the agency to reach field – Early Warning Indicator System and the Office of College and Career Readiness

- **Over Communicate & Collaborate with key stakeholders**: Statewide Edwin road shows – six sessions across the state with over 1,100 participants. Weekly conference calls were held throughout the project for both Edwin Analytics and Edwin Teaching & Learning. Some level of communication has to be in person, regional workshops are essential

- **Be Supportive**: Workshop style where participants were able to log in and use the system, not just hear about it. This utilizes a train the trainer model and includes a data literacy professional development series, on-line series of courses, and a Data Quality Curriculum. All districts must participate in training with local diverse teams created from registrar to district IT directors.