

Data Warehousing in Michigan Schools

Executive Summary

March 2007

In January 2007, the ISDs/RESAs in Michigan completed a survey conducted by the MSBO Data Warehouse Committee, with support from the MAISA Technology Committee. The purpose of the survey was to determine the status of data warehousing in Michigan. The survey was modeled after a similar survey completed in August 2005 by the MAISA Technology Committee (see www.gomaisa.org).

What is data warehousing?

- A tool to help districts become data driven in order to meet the requirements of NCLB and EdYES!
- A collection of various sets of data found in a variety of unrelated locations and formats brought into one relational database.
- It will allow districts to find answers and ask complex questions that uncover underlying problems – leading to the design of data driven student achievement and school improvement strategies.
- Data incorporated into a fully relational data warehouse (see www.gomaisa.org)

Overall, the majority of responding intermediate school districts or regional educational service agencies (ISDs/RESAs) indicated they are involved in various implementation stages of a data warehousing project.

In short, nearly all of these projects are coordinated and initially funded in some manner through an ISD/RESA and provide MEAP content, strand and benchmark trends and reports for central curriculum administration, building administration and teachers to use to become data driven in their decision making for student interventions and remediation.

Not all 40 respondents answered every question. In summary:

- 30 of the 40 ISDs/RESAs indicated they were in some stage of data warehousing in their county, 14 of which were partially or fully implemented
- 6 ISDs/RESAs indicated they had not started a data warehousing project and listed some reasons. Four more who indicated they were in the ‘planning and research stage’ also indicated some reasons why they hadn’t started: 7 of these 10 ISDs/RESAs indicated lack of staffing at the ISD/RESA; 6 of these 10 indicated districts do not see a need for a data warehouse coordinated by the ISD; 5 of these 10 indicated cost as a factor
- ‘Data warehousing is designed to engage schools in the process of becoming data driven’ and ‘Data is used for intervention and remediation of students’ and ‘Results from the data warehouse are intended to not only answer questions, but generate more questions’ were chosen by 24 of the 40 ISDs/RESAs (not necessarily the same 24) as components of a data warehouse definition and plan. 23 also chose ‘Building principals and teachers are key users of the data’ as part of the definition and plan. 19 ISDs/RESAs chose all four of these as components of a data warehouse definition and plan.
- 26 of 27 responding ISDs/RESAs indicated a consortium of school districts coordinated through one or more ISD/RESA as the chosen model for data warehousing
- 29 of 34 responding ISDs/RESAs indicated six or more school districts were involved in a consortium with the ISD/RESA (not necessarily related to the data warehouse).
- 25 of the 30 respondents identified the combination of central office curriculum staff, building administration and teachers as the key users of the data warehouse solution; 16 of that group also chose central office technology staff
- 23 of the 40 indicating their various stages of data warehouse implementation identified the number of years the project has been in place: 11 are in the roll out phase, 4 indicated 1 year, 6 indicated 2 years, 1 indicated 3 years, and 1 indicated more than 3 years.
- 20 indicated types of data mining being performed: 20 indicated MEAP Content Areas (Content Gap Analysis), 19 indicated Local Assessment Analysis, 18 indicated MEAP Strands (Strand Gap Analysis); 15 indicated all three of these, plus MEAP Benchmarks (Benchmark Gap Analysis)

- 17 indicated the types of data/reports are available in their solutions: 17 indicated trend data of state assessment (e.g. MEAP), 15 indicated Benchmark and Grade Level Content Expectation data, 14 indicated Trend data of local assessments, 13 indicated Students ‘on the edge’ of passing assessments, 13 indicated AYP-type predictive reports, and 11 indicated assessment data related to other data (e.g. teacher credentials, free/reduced lunch status, program participation, etc.); 7 indicated all of these types of data/reports
- 10 ISDs/RESAs indicated that they had evidence that their data warehouse solution is making a difference; most cited an increased dependence on quality data to inform planning and decision making
- 23 ISDs/RESAs indicated they paid for some portion of the data warehouse project
- Regarding the start up costs for the data warehouse project, not including annual license:
 - 9 indicated zero or minimal cost; 3 indicated between \$10,000 and \$50,000; 3 indicated between \$100,000 and \$140,000; 4 indicated between \$225,000 and \$275,000; 1 indicated over \$1 million.
- Regarding annual licensing costs for the data warehouse project, some indicated a per student annual license fee, others indicated a total annual license fee.
 - From those indicating a per student license fee: 1 indicated no annual cost; 2 indicated \$2 and \$2.25 per student respectively; 5 indicated between \$3.50 and \$5.50 per student; 2 indicated \$9 per student
 - From those indicating a total annual license fee: 3 indicated less than \$10,000 annually; 3 indicated between \$10,000 and \$20,000; 4 indicated a total cost between \$35,000 and \$60,000
- When asked how many full time equivalencies for staffing were added at the ISD for school improvement: 11 indicated 0 FTE; 2 indicated 0.3 FTE; 2 indicated 0.5 FTE; 4 indicated 1 FTE; 1 indicated 6 FTE
- When asked how many full time equivalencies for staffing were added at the ISD for technical support: 10 indicated 0 FTE; 2 indicated 0.2 – 0.25 FTE; 1 indicated 0.5 FTE; 1 indicated 0.75 FTE; 4 indicated 1 FTE; 2 indicated 2 FTE
- 21 ISDs/RESAs indicated the products that they have chosen. There are 9 solutions. They are:
 - 5 chose Achieve! Data Solutions: Data Director
 - 5 chose Pearson Benchmark and Inform
 - 4 chose MI Tracker
 - 2 chose Excelsior DDA
 - 1 chose TetraData Decision Suite
 - 1 chose School City and Schools Open
 - 1 chose Nusoft Data Mart
 - 1 chose Datawise, Inc
 - 1 chose Custom using OtisEducation Portal with Sagent Data Flow Services
- *In 2005, 22 ISDs/RESAs indicated the products that they have chosen (some indicated more than one). They were:*
 - 9 chose MI-Tracker <http://www.successlineinc.com/>
 - 3 chose Inform by Pearson - www.pearsonschools.com
 - 3 chose Quality School Portfolio (QSP)
 - 2 chose Achieve Data Solutions - Data Director - www.achievedata.com
 - 1 chose Skyward
 - 1 chose APS (Accountability Profile for Students) Regional Data Systems - www.regionaldata.com
 - 1 chose School City STARS www.schoolcity.com
 - 1 chose CELT Corp. Group 1 Sagent Data Bus Tool
 - 1 chose Edmin
 - 1 chose Home Grown integrated to Class Server

*Respectfully submitted: MSBO Data Warehouse Committee, with support from the MAISA Technology Committee
 Questions: Mike Oswald, Assistant Superintendent, Regional Technology Services, Calhoun ISD*

Here are the responses as submitted when asked for lessons learned from ISDs/RESAs in various stages of data warehousing:

State of Implementation	Lessons Learned
Beginning Implementation, solution chosen but not currently operational	<ul style="list-style-type: none"> • Work with other ISDs who are further in the process...The folks at Calhoun ISD have been a wealth of information and support in lessons learned. • Work to involve all stakeholders, from varying levels in the ISD and local districts.
Beginning Implementation, solution chosen but not currently operational	<ul style="list-style-type: none"> • Talk to references • Talk to stake holders
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Data quality is extremely important or any information you mine is unreliable. • Building strong learning communities to explore the data together and develop interventions will help to drive usage and make an impact on student learning.
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Develop clear timelines and expectations of what the warehouse will be able to do on your behalf. • Be as concise as possible with charts and samples of intended outcomes.
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Only effect if you mine data. You have to mine data. • Local districts need more information in order to make adequate yearly progress. They need more data to make decisions
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Communication, Communication, Communication
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Data validation stage is critical. Technical support from a company such as Pearson helps ensure quality implementation. We tried a different product a few years ago, and the technical support just wasn't available, because the company/consortium was much smaller.
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Excellent understanding and cooperation among all participants is crucial and having a vendor partner that understands the true complexity of data warehousing is critical for success.
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Expensive and time consuming
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Partner across ISD's for shared costs.
Partially Implemented, solution chosen and initial data being used by some of the school districts	<ul style="list-style-type: none"> • Planning and deployment must have input from all involved from the beginning.
Planning and Research, committee formed, but no solution chosen	<ul style="list-style-type: none"> • Need the right people to make it work. • Recognize capabilities and limits of system. • Collaboration across dept. is key.
Planning and Research, committee formed, but no solution chosen	<ul style="list-style-type: none"> • This is not a simple solution. • It is very costly.
Fully Implemented, solution implemented and integral to the school improvement planning process of all school districts	<ul style="list-style-type: none"> • Content expert sponsors who focus on PD and being in the districts makes the most significant impact. • Districts are at various stages of readiness, be prepared to help them understand what stage they are in and how to effectively move forward.
Fully Implemented, solution implemented and integral to the school improvement planning process of all school districts	<ul style="list-style-type: none"> • Must be co-lead by technology and curriculum. • Technology and curriculum key contacts in each district are central to the success of the project in the district.
Fully Implemented, solution implemented and integral to the school improvement planning process of all school districts	<ul style="list-style-type: none"> • There is no such thing as clean data. Older data is often problematic and difficult to load. Many assessments do not have the necessary data available for proper loading and reporting.
Other, Please Specify (We have piloted a solution for the last 2 years)	<ul style="list-style-type: none"> • Identification of the information you want to report out. • If the data is not clean, no solution will work, districts need to have a data person to assist in this cleanup
Other, Please Specify (Are using MI Tracker to store achievement data)	<ul style="list-style-type: none"> • Build capacity for teachers and administrators to use the data before investing in a data warehouse

Here is contact information provided by many of the ISDs/RESAs completing the 2007 survey:

Allegan ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Cathy Burton-Snell
Bay Arenac ISD	Planning and Research, committee formed, but no solution chosen	Mary Ellen Bluehm
Calhoun ISD	Fully Implemented, solution implemented and integral to the school improvement planning process of all school districts	Mike Oswalt, oswaltm@calhounisd.org
Charlevoix-Emmet ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Gus Bishop
Clinton County RESA	Are using MI Tracker to store achievement data	Connie Donovan, Dave Childs (MMNET), Larry Lloyd
Eastern UP ISD	Beginning Implementation, solution chosen but not currently operational	Michael Porter mporter@eup.k12.mi.us
Eaton ISD	Beginning Implementation, solution chosen but not currently operational	Angelina Zeller 517-543-5500 ext.1234
Genesee ISD	We have piloted a solution for the last 2 years	Mary Lavengood, Assistant Supt. David Treder, Assessment Coordinator
Gogebic-Ontonagon ISD	Planning and Research, committee formed, but no solution chosen	Shawn Kolbus/Joy Maki
Gratiot Isabella RESD	Currently using MI Tracker; Others under study	David Childs, Exec Dir. - MMNET Deborah Dunbar, Assoc. Supt. - Instruction Mike Matlosz, Supt.
Ingham ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Kathy Humphrey and John Endahl of School Development Services
Jackson County ISD	Planning and Research, committee formed, but no solution chosen	Shannon Degan, Tech Director.
Kalamazoo RESA	Partially Implemented, solution chosen and initial data being used by some of the school districts	Don Dailey 269-385-1559
Kent ISD	Fully Implemented, solution implemented and integral to the school improvement planning process of all school districts	GlenFinkel@kentisd.org
Lapeer County ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Jim Brownrigg
Manistee ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Kay Salyer
Menominee County ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Wendy Woodworth wwoodworth@mc-isd.org
Monroe County ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Kathy Berry, Coordinator of Research, Evaluation, and Assessment
Oakland Schools	Fully Implemented, solution implemented and integral to the school improvement planning process of all school districts	Tammy L. Evans, Director of Technology and Dr. Ernie Bauer, Research and Evaluation
Shiawassee RESA	Partially Implemented, solution chosen and initial data being used by some of the school districts	David Schulte (989-743-3471 x237) and Kathy Miller (989-743-3471 x214)
St. Clair RESA	Beginning Implementation, solution chosen but not currently operational	Cliff DuPuy
Wayne County RESA	Beginning Implementation, solution chosen but not currently operational	Deborah I. Belaire Judy Bonne
Wexford Missaukee ISD	Partially Implemented, solution chosen and initial data being used by some of the school districts	Lisa Bannon

2007 Responding ISDs/RESAs (40)

Allegan ISD	Eaton ISD	Lapeer County ISD	Montcalm Area ISD
Bay Arenac ISD	Genesee ISD	Lenawee ISD	Muskegon ISD
Berrien ISD	Gogebic-Ontonagon ISD	Livingston ESA	Oakland Schools
Branch ISD	Gratiot Isabella RESD	Macomb ISD	Ottawa Area ISD
Calhoun ISD	Huron ISD	Manistee ISD	Shiawassee RESA
Charlevoix-Emmet ISD	Ingham ISD	Marquette Alger RESA	St. Clair RESA
Cheyboygan-Ostego-Presque Isle ISD	Iosco RESA	Menominee County ISD	Tuscola ISD
Clinton County RESA	Jackson County ISD	Mason-Lake ISD	Van Buren ISD
Dickinson-Iron ISD	Kalamazoo RESA	Midland County ESA	Wayne County RESA
Eastern UP ISD	Kent ISD	Monroe County ISD	Wexford Missaukee ISD

2005 Responding ISDs/RESAs (38)

Allegan ISD	Genesee ISD	Macomb ISD	Saginaw ISD
Barry ISD	Gogebic-Ontonagon ISD	Mason-Lake ISD	Sanilac ISD
Bay Arenac ISD	Gratiot Isabella RESD	Mecosta-Osceola ISD	St. Clair RESA
Berrien ISD	Ingham ISD	Midland County ESA	St. Joseph County ISD
Branch ISD	Ionia ISD	Monroe County ISD	Traverse Bay Area ISD
Calhoun ISD	Jackson County ISD	Montcalm Area ISD	Tuscola ISD
Charlevoix-Emmet ISD	Kalamazoo RESA	Muskegon ISD	Van Buren ISD
Cheyboygan-Ostego-Presque Isle ISD	Kent ISD	Newaygo ISD	Wexford Missaukee ISD
Clare Gladwin ISD	Lapeer County ISD	Oakland Schools	
Clinton County RESA	Livingston ESA	Ottawa Area ISD	