

Context Report – Data Systems Development

Strategic Priority: Develop and use data systems that will inform decisions.

Introduction

In January 2003, the Executive Team of GWAEA identified four strategic priorities that represented actions that would hold the greatest promise of achieving the agency wide goals identified as a result of a comprehensive needs assessment. It was determined that a white paper would be developed to provide guidance for the future direction of each priority. George Held, Communications Supervisor, was assigned to assemble a representative group within the agency to develop the white paper focusing on data systems for decision-making.

Participants in the process were representative of agency staff. They were: Char Haddy, Supervisor, Media Center; Tammy Carolan, Registrar/Secretary; Trace Pickering, Planning and Development Specialist; Jennifer Snell, Regional Facilitator; Janel Lesan, Regional Facilitator; Dave Brouard, Computer Programmer; Michelle Tressel, Instructional Integration Facilitator; Tara Johannsen, Graphics/Printing Supervisor; Gregory Dunn, Assessment Consultant; Maria Cashman; Associate Regional Facilitator; Cliff Ehlinger, Executive Director; Susan Salter, Early ACCESS Specialist; Kathleen Aller, Facilitator; Kathy Blando, School Improvement Consultant; and Michelle Mardesen, Region 8 Secretary.

The Data Systems Committee met twice as a large group: February 27 and March 12. Subgroups of the committee met at various other times to collect and assemble their parts of the data and findings.

Research Findings

Current trends and shifts in the way data and data systems are viewed indicates that organizations don't suffer from lack of technology or data but from a lack of coherent collection and dissemination systems. There is also a shift from collecting data strictly for compliance to using it as a diagnostic tool:

- The work is in helping consumers make wise use of the data and not devising systems for reporting it. Hardest task is not technical but cultural.
- High performing schools rely heavily on data to make decisions.
- Only 17 states provide breakdown information on student achievement.
- Schools typically don't have the fiscal and human resources or the infrastructure to build collection and dissemination systems.
- There is a rapid increase in the number of companies attempting to provide this service to schools.
- Developing such systems of collection, analysis and use can be long, complicated and costly.

Quality of data, its appropriate use and application remains problematic:

- Information can be poor quality- more attention must be paid to validation.
- School data can be very messy and often is maintained by the lowest-paid employees.
- The sharing of data can be scary for some educators. We must be sensitive to their risk aversion and help them realize the long-term benefits of openly using their data to drive decision-making.
- School data and data systems are relatively useless if users cannot get access to it to help them change teaching methods. Using data correctly is more a training issue than a technical issue.

Research and best practice finding suggests these design principles:

- Common information is the basis for consensual decision-making. Identify the principal clients, determine the questions they are trying to answer and decide what the units of analysis should be.

- Common information resources should draw only on existing institutional data rather than attempting to create new data sources.
- The resulting database is best used for supporting decisions rather than recordkeeping.
- The database should be subject-oriented, longitudinal for “change-over-time,” and dynamic, allowing for growth and change with shifting needs.
- In business, enterprise wide software (providing company-wide access to data) became popular in the 90’s. In 1992, 39 copies of enterprise wide software developed by SAP were sold. By the end of 1996 over 9,000 servers were using it.

In looking at systems for enhancing agency wide data use, one caution evolved: A database system –whether it’s enterprise wide or widely available via internet access - will do only what it is configured to do. If a client’s address is wrong - it will be wrong on the new system, unless someone cleans up the data. The system can provide historic data, but it does not have the ability to interpret data in order to recommend teaching strategies for individual learners. It will never be the answer to all problems.

Benchmarks

“If teachers, schools and states are going to be held accountable for raising student achievement, they need the tools that will allow them to identify and utilize effective practices and programs. The only tried-and-true tool for generating cumulative advances in knowledge and practice is the scientific method.” -Grover J. (Russ) Whitehurst, director of the Institute of Education Sciences at the Education Department, in a statement before the House Subcommittee on Labor/HHS/Education Appropriations.

Contact	Type of Data Collected	Purpose	Product Name
AEA 15 Bob Steingreaber 641/682-8591 x251	<ol style="list-style-type: none"> 1. Web-based internal/ external customer satisfaction surveys 2. Media Library Survey 3. Web-based calendar program 4. LEA email 	<ol style="list-style-type: none"> 1. Customer satisfaction 2. State Library of Iowa 3. Documents type and amount of service to LEAs 4. Manages email for all school districts in AEA 	<ol style="list-style-type: none"> 1. E-Listen 2. Filemaker Pro 3. Lotus organizer 4. None given
AEA 13 Dave Stickrod 800-432-5804	<ol style="list-style-type: none"> 1. Web-based Evaluator Training 2. Area wide database 3. Student Information Mgmt System 	<ol style="list-style-type: none"> 1. Collects info from adm seeking the approval 2. Documents type and amount of service to LEAs 3. Contains demographic data, etc. of students in Council Bluffs 	<ol style="list-style-type: none"> 1. None given 2. None given 3. SASI, aligned Tranquility software
AEA 11 Tom Hoffman 515/270-9030 x4322	<ol style="list-style-type: none"> 1. Student Information Mgmt System compatible with NWEA 2. Web-based Survey tool 3. Area wide database 	<ol style="list-style-type: none"> 1. Captures district-wide assessment data, helps analyze and disaggregate data 2. Various uses 3. Multiple ways to capture information 	<ol style="list-style-type: none"> 1. “Heart” contact Dave Tilly x4339 2. “Test Pilot” 3. “CIAF” contact Phil Berrie x4320

Summary

Most of the AEA's collect data for the purposes of maintaining student demographic information/assessment data and tracking services to LEAs. They are in various stages of development.

Grant Wood Current State

- A shift from discrete data systems, kept on individual machines or limited to a few users, to enterprise wide systems may not be achievable by Grant Wood AEA due to the cost of such a system and the current economic climate. However, many of the agency's databases could be interrelated and made more available to staff for analytical and support purposes.

The committee surveyed staff in an attempt to broadly identify as many of the critical functions for which data is currently being captured and stored. The agency has multiple databases in use throughout the organization. Most of them can be classified into three primary categories:

- **User Lists and Addresses** – These include extensive data on each LEA including superintendents, principals, teachers, substitutes, buildings, van routes, and student lists. Other addressing data include agency staff, HR information, addresses of parents, newsletter recipients, support organizations, etc.
- **Operational Data** – Additional student information is captured in agency databases. Individual Education Plans, results of student hearing checks, and student assessment information are some of the critical data currently available. Operational data also encompasses items checked out of the agency's media center; classes offered for professional development, who signed up for the classes and who completed the coursework; and participation information for the VAST Center. Business systems dependent on operational data include employment records, accounting systems, purchase orders, and timecards.
- **Calendar** – Scheduling and record-keeping of dates is another primary use for information managed through databases. This includes dates of professional development offerings, employment dates, contract dates, room reservations, staff assignments, etc.

The uses of databases at Grant Wood include (but are not limited to):

- Analysis of student performance
- Histories of student performance, health records, and assistance provided
- Tracking usage of software and media items
- Internal record keeping
- Document storage and retrieval
- Business management
- Scheduling
- Payroll
- Inventory control
- Contract management
- Accreditation and certification records
- E-mail and phone lists
- Mailing and van delivery lists

Sources:

- “Schools Discovering Riches in Data” Education Week. 6/12/2002, Vol. 21 Issue 40, p1, 3p, 3c. By Lynn Olson.
- Information Rules Shapiro, Carl and Varian, Hal R. Harvard Business School Press; Boston, 1999.
- “The Politics of Information” Change. May/June, 2001, Vol. 33 Issue 3, p. 50, 8p by Debra Friedman and Phillip H. Hoffman.
- “Quality Databases Improve Organizational Efficiency and Cost Effectiveness.” Becker, S. Idea Publishing Group, Hershey, PA. 2001.
- “Seeding for Data Growth.” Computerworld 4/15/02 Vol. 36, Issue 16, 1p, 1c. By Mark Hall.
- <http://www.bywater-consulting.com/briefews/briefews.pdf>
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