



Minnesota Department of Education

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August 23, 1985

Chairman, House Appropriations Committee
and
Chairman, Senate Finance Committee


Dear Sirs:

Pursuant to the Minnesota Laws of the 1981 Regular Session, Chapter 359, Section 2, Subdivision 6 (e), I am herewith transmitting to you the progress report of the Department of Education's Management Information Systems. This report covers the six-month period of January 1, 1985 - June 30, 1985.

The Department of Education proposes to continue producing these reports twice annually if requested to do so by the Legislature. Alternatively, the Department is prepared to produce detailed, specific topic reports upon request.

If you have any questions or comments regarding this report, please contact Charles Coskran, Director, Education Data Systems, at (612) 297-3752 for further information.

Sincerely,


GURMAN GAINES
Deputy Commissioner
Department of Education

CG:MTM

cc: Legislative Reference Library (10)

STATE OF MINNESOTA
DEPARTMENT OF EDUCATION
EDUCATION DATA SYSTEMS

REPORT TO THE LEGISLATURE
MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT

JANUARY 1, 1985 - JUNE 30, 1985

I. INTRODUCTION

This report is submitted to the Chairman, House Appropriations Committee, and the Chairman, Senate Finance Committee, pursuant to the Minnesota Laws of 1981, Chapter 359, Section 2, Subdivision 6 (e). The period covered by this report is from January 1, 1985 to June 30, 1985.

This report covers the present status and work accomplished in the following areas:

The State Department of Education Information System (SDE-IS)

The Elementary/Secondary/Vocational Information System (ESV-IS)

Data Management Within and By the Department

Microcomputer System Development and Use

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II. STATE DEPARTMENT OF EDUCATION INFORMATION SYSTEM (SDE-IS)

The Education Data Systems Section (EDSS) has developed and is operating the computer systems that operationalize many of the Department's legislated functions. Collectively these systems (approximately 40 in number) are known as the SDE-IS. Some of the functions carried out by the Department through the use of the SDE-IS are: calculation and payment of state aids; calculation of each school district's levy limits; licensing of all school district professional staff members; evaluation of school district financial operations and conditions; collection and validation of pupil membership and attendance data; gathering and reporting of district associated civil rights information; student assessment; and, child nutrition and related areas.

During the six month period from January 1, 1985 through June 30, 1985, EDSS has completed 74 mainframe system Data Processing Services Requests from users throughout the Department as well as outside agencies such as House and Senate Research. Representative activity occurred but was not limited to the following areas:

1. All aids have been paid on schedule.
2. Development of a Commodities System for the Child Nutrition Section which orders and maintains inventories of commodities from the USDA was completed.
3. The Data Base Element Dictionary (DBED) system enhancements were completed and the system is now ready for operation.
4. Development of a Title I System for the Fiscal Services Section is nearly completed.
5. The process of modifying numerous aid calculation and payment programs to reflect legislative changes from the recently completed 1985 regular and special session has begun.
6. A system to catalog and report on characteristics of data collected by the Department and included in the SDE-IS was developed.
7. A system to assist in the monitoring of elementary and secondary curriculum offerings was developed.
8. The system which produces the State Plan Five Year Projection Report for the State Board of Vocational-Technical Education was enhanced.
9. Numerous sets of district, school, and teacher labels were provided to Department users and outside agencies through two newly developed label generation systems.

DOCUMENTATION. Documentation of the SDE-IS systems is complete and is updated or modified as needed with the exception of any system currently in development or modification. All technical manuals are reviewed by the respective system user.

EQUIPMENT. Within the Department of Education, there is a variety of equipment that allows Education Data Systems data processing staff and users to utilize, maintain, and continue the development of the SDE-IS. The Department currently houses 36 CRT terminals, 1 auxiliary printer, 8 disk drives containing 2 spindles or 17,560,000 segments of data, 1 remote job entry (RJE) line, and 5 dial-up lines (one for Vocational Education) that connect the Department to the Burroughs mainframe computer housed at METRO II. In addition, there are 7 CRT terminals and 1 remote printer housed at MECC.

Currently, there are 1,300 magnetic tapes in use, and approximately 150 batch jobs are processed each day. On-line INQUIRY programs run from 7:00 a.m. to 5:00 p.m. each day and approximately 7,000 pages of print are produced per day, excluding the printing of teacher licenses, various types of mailing labels, commodity release forms, USDA forms, and child nutrition computer generated form letters.

III. ELEMENTARY/SECONDARY/VOCATIONAL INFORMATION SYSTEM

The Minnesota Educational Computing Corporation (MECC) provided administrative data processing services during the period of January 1, 1985 to June 30, 1985 to support the ESV-IS. MECC provided these services through the MECC-MIS (Management Information Systems) Division in conjunction with the ESV-IS Management Teams. MECC's large mainframe computer section was responsible for the development, maintenance, and documentation of common computer software and interfacing with user requests from the seven ESV regional centers.

The legislative mandated finance system (ESV-FIN) provides school districts with important operating information and also provides the state with critical financial data. The payroll/personnel system (ESV-PPS) is voluntarily used by 280 school districts for payroll processing, checks, reports, and W-2 reporting. Both systems have reached a level of stability and continue to evolve to meet the changing needs of the state and local management. Over 200 modifications were made to system software in FY1985. All system changes are prioritized by the respective Management Team for each system and are deemed necessary to keep the systems uniform, current, and viable for the reporting units utilizing them.

FIN APPLE AND PPS APPLE. These two systems were developed for operation on the Apple microcomputer to provide a less expensive and less time consuming means for smaller districts to interface with the regional mainframe computers. These systems also give districts immediate access to some types of reports available from ESV-FIN and ESV-PPS. In the last six months, debugging was performed and enhancements made to both systems to keep them current and operational.

SOFTWARE SUPPORT. In accordance with the terms of Minnesota Statute 121.933, the Department of Education delegated its duties for the implementation and technical support of the ESV-FIN and ESV-PPS systems to MECC for FY86. Implementation and technical support duties for the statewide student system, ESV-SSS, were delegated to METRO II, one of the seven ESV regional computer centers. Delegation of authority agreements are now in place. A Management Team has been appointed for each major system (ESV-FIN, ESV-PPS, and ESV-SSS) and will review the progress made on each system on a quarterly basis.

The payment schedule of the delegation agreements for software support are as follows:

a. Software Support Payment to METRO II in FY86

\$4,958 X 12 monthly payments	\$59,496
Quarterly Payments (not to exceed \$59,504)	\$59,504
Made upon approval of ESV-SSS Management Team.	

Subtotal	\$119,000
b. Software Support Payment to MECC-MIS	
\$9,029 X 12 monthly payments	\$108,348
Quarterly Payments (not to exceed \$108,357)	
Made upon approval of ESV-FIN and ESV-PPS Management Teams.	\$108,357
Subtotal	\$216,705
c. Contingency Fund	
	\$13,103
TOTAL	\$348,808

REGIONAL FUNDING. The following is the distribution of funding for the ESV Regions in FY86:

Region	Amount
I	\$432,142
II	\$374,363
III	\$451,532
IV	\$419,146
V	\$492,797
VI	\$413,101
VII	\$616,919
Total	\$3,200,000

IV. DATA MANAGEMENT WITHIN AND BY THE DEPARTMENT

The Data Acquisition Unit (DAU) of Education Data Systems has continued to maintain the data management process within MDE. The DAU has actively begun the process of consolidating the collection of data from districts and is building computer systems which allow for sharing of data and establishment of a central data resource at the MDE. The key to this process is the identification and standardization of data reporting elements. The DAU is also currently developing data reporting options for districts, through the use of forms, microcomputers, and the ESV regional computer centers.

The Data Acquisition Review Committee (DARC) marked its third full year of operation. This past year the Committee reviewed 127 data collection activities and modifications were incorporated into 68 forms. Furthermore, the DARC has added to its list of review criteria the inclusion of data standards (uniform terminology and values). All Department data collection activities are now required to utilize the standard terminology as developed by the Uniform Terminology and Coding Committee (UTAC).

The work of the UTAC Committee is complete. All data elements which are used in student and staff reporting have been identified, reviewed, defined, and standardized. This October, the DAU will issue a book of terminology to all districts, ESV regional computer centers, and MDE staff. This book will contain the official language to be used in reporting of student/staff data. Furthermore, the book will have an entire section which will list the pieces of data that constitute the spectrum of educational reporting. Theoretically, a district or ESV regional center will be able to incorporate these pieces into computer systems which will meet both MDE and district data needs. The next major task in data standardization is for the DAU to work on the standardization of course/curriculum terminology (course/class description).

The Data Base Element Dictionary has been completed. The dictionary is a tool which will aid researchers in finding what data is available on the SDE-IS. Arthur Young and Company staff have reviewed the final product and noted its effectiveness. The DAU is now in the final stages of preparing training sessions for the use of the dictionary. This training will include MDE and legislative staff.

The Annual Data Acquisition Calendar for the 1985-86 school year is nearing completion. It will be issued to the districts prior to the start of the school year.

The DAU has continued to work with SDE-IS consultant staff in the establishment of student and staff databases on the SDE-IS. Current plans include a prototype development of the two databases on the SDE-IS this year. The goal is to work with district, ESV Region, and MDE staff to accurately design the system to meet Department reporting needs as well as ease the reporting requirements of the districts. In pursuit of this effort, the members of the DAU visited 20 school districts in the month of June. The purposes for visiting the districts were:

1. To gain feedback from the districts on current MDE data collection methods.
2. To learn district methods of capturing data to respond to MDE collection.
3. To determine the data needs for internal district operation which are in addition to Department needs.
4. To learn district methods of maintaining internal data.
5. To ascertain which automated methods for data collection, maintenance, and manipulation are currently employed in the school districts.
6. To seek out candidates for participation in a prototype and pilot of student and staff data collection.

The DAU gained useful insight into district operations that will clearly impact the implementation of a prototype and pilot. We were very encouraged by district responses and have identified candidates for involvement. The Data Acquisition Unit will shortly begin visiting 10-15 medium to large sized districts to gain further insight into data reporting and the construction of an MDE student and staff database.

V. MICROCOMPUTER DEVELOPMENT

The use of the microcomputer for various applications continues to increase. There are currently approximately 70 microcomputers (Apple II+, Apple IIe, and IBM PC models) housed in the Department of Education.

The Education Data Systems Section (EDSS) continues to publish the "Microcomputer User Newsletter" on a bi-monthly basis. The newsletter shares information on new micro products and applications, reviews software releases, and gives users the opportunity to share their experiences with others.

Education Data Systems also continues to provide training on commercial software packages. Training is provided by a senior systems analyst assigned to EDSS who is responsible for microcomputer research and development. Commercial software packages are reviewed and tested in EDSS and judged by criteria such as cost, equipment compatibility, and user friendliness. Microcomputer users are encouraged to use Department supported commercial software in their applications whenever possible as opposed to the use of specially programmed software which can be time consuming and expensive.

Microcomputer applications basically fall into four major categories: word processing; spreadsheets (calculation and forecasting financial information); data base management; and graphics. Recent research has also included the use of the microcomputer as a terminal for access and manipulation of data on the mainframe computer. Testing continues between the Department and ESV Region II (Arrowhead Computing) in the use of mainframe VISION software in conjunction with a microcomputer to download and manipulate timely, accurate, financial data to be used for budget projections. It is anticipated that testing of this type will continue and will be expanded to involve other ESV Regions and applications.

MICRO-FIN PILOT

Since the previous report to the Legislature, three microcomputer finance accounting and reporting systems have been tested by the Department and evaluated by the ESV Computer Council. One of the systems tested operates on Burroughs hardware and was developed by the Burroughs MSG Group. The other two test systems, developed by NCS and MECC, operate on IBM microcomputer hardware.

As a result of the pilot tests of these systems, the Department and ESV Computer Council were able to conclude findings and present recommendations to the 1985 Legislature as follows:

Findings

1. Districts can effectively meet finance management information needs through use of microcomputer financial accounting systems.
2. State needs for accurate, uniform, and timely education finance data can be met through district use of microcomputer-based finance data and

reporting software.

3. Districts using alternative microcomputer systems require a significant level of support and training for successful conversion to and operation of the system. Without a high level of support, state receipt of accurate, uniform, and timely education finance data is at risk.
4. The degree to which districts can successfully operate stand-alone microcomputer finance accounting and reporting systems is a factor of district staff accounting expertise, district staff computer expertise, quality of the software, its documentation, and the outside support available to the district.

Recommendations

1. By July 1, 1985, the State Board, with the advice and assistance of the ESV Computer Council, should designate at least one approved microcomputer finance accounting and reporting system which may be used by school districts as an alternative to the mandated ESV-FIN system. The system designated should be that which appears to be the most cost effective after completion of the MECC and private vendor system pilot tests during the remainder of this fiscal year.
2. Districts should continue to have the option to petition for state approval to use a finance accounting and reporting system other than the state approved general microcomputer alternative or the state ESV-FIN system.
3. To help ensure that the state continues to receive uniform, accurate, and timely education finance data, districts using approved microcomputer finance software should continue to be affiliated with and receive support services from an ESV Region.

These recommendations were endorsed by the Legislature and statutory modifications to M.S. 121.931 and 121.936 were enacted.

As of this writing, the ESV Computer Council has made a recommendation to the State Board for approval of all three (Burroughs, MECC, and NCS) test systems. If adopted, districts will then have three stand-alone microcomputer processing options, a mainframe ESV-FIN option, and a combined mainframe/micro option (known as FIN-APP). State Board action on the recommendation is expected during September.