



Minnesota State Department of Education
Central Source □ 350 Cedar Street □ St. Paul, Minnesota 55101

Phone (612) 296-2358

October 12, 1982

Chairman, House Appropriations Committee
and
Chairman, Senate Finance Committee

Dear Sirs:

Pursuant to Minnesota Laws 1981 Regular Session, Chapter 359, Section 2, Subdivision 6(e), I am herewith transmitting to you the progress report of the development of the Department of Education's Management Information Systems.

If you have any questions regarding the content of this report, please do not hesitate to contact me.

Sincerely,

JOHN J. FEDA
Commissioner of Education

JJF:MTM

cc: Legislative Reference Library (10)
Ronald J. Laliberte
Gerald Kleve
Charles Coskran

I. INTRODUCTION

This report is submitted to the Chair of the House Appropriations and the Chair of the Senate Finance Committee pursuant to the Laws of 1981 Regular Session, Chapter 359, Section 2, Subdivision 6(e). This report covers the period January 1, 1982 through June 30, 1982. The report is organized as follows:

Section II State Department of Education Information System (SDE-IS)

Section III Data Management Within the Department

Section IV Elementary, Secondary, Vocational Information System (ESV-IS)

Section V Regional Computer Center Services

Section VI Instructional Computing Services

Section VII Work Plan for FY1983

Section VIII Budget and Expenditures

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

The State Department of Education Information System, commonly referred to as the SDE-IS, is increasingly used as the principal source of data for department reports. The SDE-IS database includes data from the annual financial report of each school district, which last fall was reported for the first time via electronic media using only the Uniform Financial and Reporting Standards (UFARS) codes. As a result, the data is more accurate and timely. The TIES region and Minneapolis schools also submitted student attendance and membership data via electronic media.

The 1982 Legislature, using this up-to-date information, is now requiring the department to develop a reporting and school aids distribution system which incorporates the current financial status of the district in calculating the monthly aids payment schedule. This system (referred to as IDEAS) must be completed by August 1, 1982. Thus far, the system's general design has been completed and work is progressing on the detail design.

The Legislative Auditor completed a program audit of the SDE-IS and made recommendations on the operation of the system. Specifically, he found that the department has achieved very tangible and useful results with systems which calculate the levies limitations, distribute foundation and other school aids, analyze and report the financial condition of the school districts, report statistics for federal and state equal opportunity requirements, report student enrollment data and projected student enrollment. The auditor also found deficiencies in the areas of data management, documentation of the computer programs, and development of a comprehensive long range plan.

In response to these deficiencies the department has established a data management policy and procedure (see Section III) and increased its effort to complete documentation of the system. To date, all the programming documentation is current, the user and system documentation is being worked on, and has a target completion date of December 1982.

The complete report is available through the Legislative Reference Library.

Previously, the consulting firm of Peat, Marwick, Mitchell & Co. had recommended development of a systems architecture plan and a comprehensive long range planning process. The additional funds to continue their contract to implement these recommendations were recised in the budget cutbacks. However, a draft systems architecture plan and long range plan were developed by staff and are now before the ESV Computer Council for recommendation to the State Board of Education.

The department has acquired six additional Apple microcomputers. These machines, in addition to using their capability to upload and download data from the large mainframe computer, are also used to automate small standalone administrative functions which are labor intensive and suitable for automation. Using only commercially available software such as VISICALC and DB MASTER, various section staff have developed: a system to analyze public library reports and provide statewide and regional statistics; a system to store and analyze budget data on the area vocational education school programs; a database of regional computer center budgets for comparison and analysis purposes; a staff directory incorporating position data, organizational location, union membership and seniority data, and telephone directory; a Special Education entitlement reporting system; a project management reporting system; a computer contract cost allocation system; a training program attendance system; and various name and address label systems.

Thus far, 125 staff have attended demonstrations and/or classes on the micro-computer and the commercial software.

An objective for FY1982 was to enhance the use of the SDE-IS database and expedite the automated handling of data in making reports to the State Legislature, federal government, and other reporting entities. Toward accomplishing this goal there are computer terminals located in the department's Statistics and Vocational Education Sections and in the House and Senate Research Sections. These terminals directly access the SDE-IS database. Inquiry into the database and generating reports are performed in an on-line mode through these terminals.

III. DATA MANAGEMENT

The Department has established a data management policy whereby all new data must be reviewed by a Data Acquisition Review Committee. Membership on this Committee includes representatives of the department most concerned with data collection and representatives of the school districts who are concerned about data reporting. The policy also provides for a minimum lead time of six months prior to the start of any data collection effort. The focus of this policy is the consolidation of data collection, reduction of the reporting burden, and standardization in data definitions.

The department has further undertaken several tasks to ensure establishment of the data review process. These include:

- 1) A Data Acquisition Review Committee charged with the responsibility for approving new and revised data collection activities. Approval will be based on specific criterion established in the policy.
- 2) Policies and procedures for the collection of data from outside the department.
- 3) Implementation of a Data Acquisition Documentation System (DAOS) which will

be utilized to reduce duplication and redundancy.

- 4) Establishment of a centralized data review process whereby all data collected by the department is made ready for the SDE-IS.
- 5) Regular reporting to each division and section to assist them to manage their data resources.
- 6) Establishment of a student data review project to review all data required for reporting student information.

The Data Acquisition Documentation System has also provided for the electronic development of the Annual Acquisition Calendar. This year alone, approximately 240 personhours have been saved in producing the Calendar, placing it five weeks ahead of schedule.

The department's effort to reduce the number of forms it uses has resulted in a decrease from 305 forms in the '80-'81 school year, to 235 forms in the '82-'83 school year. The department has achieved a net reduction of 70 forms (23 percent) within the last two years.

As a result of the Legislative Auditor's findings and the recommendation that the department should identify and acquire a commercially available data dictionary, the department has retained the Arthur Young Company to define the data element dictionary and assist in the selection and implementation of the dictionary. They will also review the current dictionary and make recommendations on its improvement. Arthur Young will also periodically review the progress of staff in the implementation of the dictionary.

IV. ELEMENTARY SECONDARY VOCATIONAL INFORMATION SYSTEM (ESV-IS)

The Elementary, Secondary, and Vocational Information System, commonly referred to as the ESV-IS, is maintained primarily by the MECC-MIS division. Since July 1, 1981, there have been 713 system adjustments and corrections programmed for the Finance, Personnel/Payroll, and Student Systems.

At this time all school districts except Ortonville are using the Finance System as required by law. Ortonville has been approved to use an alternative micro-computer based finance system developed at the Ortonville district. This system, generally referred to as "Micro-FIN", has been approved as being in conformity with the Uniform Financial Accounting and Reporting Standards (UFARS). There have been a few inquiries requesting approval to use the Micro-FIN alternative but no other district has been recommended for State Board approval by the ESV Computer Council.

It was previously reported that the FIN-APP modification to the finance system was released for general use in December, 1981. This modification allows for the upload/download of data between an Apple microcomputer and the central computer. Additional features have been added which allow for checks and small reports to be printed through the school district's Apple. At the present time, some interest has been shown by districts located in each of the regions to use this feature. Based upon this interest, it is estimated that approximately 50 districts will be using FIN-APP by the end of FY1983. A similar capability using the Apple to interface with the regional computer has been developed and has been piloted for payroll in the Adrian school district.

Version 2.0 of the Personnel/Payroll System has been released, incorporating the payroll and personnel changes. Version 3.0, which intends to consolidate the ESV Personnel/Payroll System and the TLS Personnel/Payroll System will soon begin the development stage. Differences in naming standards will require a reprogramming effort by one of the two groups.

The Student System has been brought to the point of final release, having completed pilot testing and quality assurance analysis. The ESV Computer Council has the system under review and plans to make their recommendations to the State Board in July. Twelve districts are now using this system.

In an attempt to measure the activity and interest by school districts to use microcomputers for administrative purposes, MECC conducted a survey, through the regional computer centers, of district uses of the micro. The applications ranged across the spectrum of school district operations from bus scheduling and routing, locker assignments, lunch room costs, staffing, staff and student projections, and payroll generation. A considerable number of districts reported class scheduling, attendance, grade reporting, and mailing lists as a principal use of the micro. The final report of this survey will be issued this summer.

Use of the microcomputer for budgeting and accounting purposes was not substantial because of the requirement to comply with UFARS and its embodiment in the ESV Finance System; however, when the Micro-FIN is released in early FY1983, 15 to 20 districts have already indicated their readiness to use it. Currently, there are no resources dedicated to support either Micro-FIN or Micro-Payroll at MECC. One district using a Micro-Payroll, Montevideo, reports it has received inquiries from and has assisted a number of districts in its installation. Since this system is designed to maintain a payroll of up to 200 staff persons, it could have an appeal to most school districts. Currently, there is some interest in a standalone micro personnel system. In order to expand the use of any of these systems, they will have to have adequate documentation and developmental support plans established and implemented.

Burroughs Corporation has announced a 16 bit microcomputer capable of "talking" to any of the Burroughs computers. While it is not compatible with the Apple computer, its existence has generated some interest in the further development of microcomputer based systems. The original master contract for Burroughs computers will end in March 1983. A committee of MECC, regional, and departmental staff have begun developing the specifications for the replacement contract.

V. ESV REGIONAL COMPUTER CENTERS

The Systems Architecture Plan and the Comprehensive Long Range Plan will impact the regions considerably and therefore they have been heavily involved in the development of these two plans. Currently, the plans are before the ESV Computer Council where final recommendations will be forthcoming.

Subsidies to support the regions were reduced by the same percentage as other department funds. Analysis of the impact of the reduction shows that, where staff positions were vacant, they remained vacant. Virtually all new development has ceased, and service has been cut back. Region V (Mankato) which had some reserves earmarked for equipment, used the reserve and reduced staff in order to avoid a fee increase. To the extent possible, fees were not increased by any region except Region I (Moorhead) which, with only 14 staff to operate its new computer and with an extensive territory to cover, raised some fees as much as 33 percent. In the Metro area, contract services, planning, and technical support staff were reduced. Another effort to ameliorate the impact

of the funding reductions was reduction of telecommunications services to the districts of their area.

Regions may take advantage of the state network through MECC, or they may use the subsidy funds to purchase their communication services. These funds must be used only in an approved manner. Criteria for use of these funds are:

- 1) Data communication lines either dedicated to data transmission or dial-up to the computer.
- 2) Lease or purchase of data communication processing equipment.
- 3) Video Display Unit equipment used in entering data on-line to the computer.
- 4) Purchase or lease of data sets, modems, or multiplexing equipment.
- 5) Purchase or lease of equipment to connect telephone lines to computer equipment.
- 6) Remote job entry equipment used in transmission of data from the regional center to computer not located in the regional office.
- 7) Regional personnel that directly support data communications in the regional operations.

The regions are required to retain records of expenditures for audit and post audit reviews.

While the department does not intend to confuse telecommunication subsidies with regional reporting subsidies, it is clear that allocating telecommunications funds directly to the regions will result in less use of on-line data transmission. The department has concluded that the subsidies should be combined and distributed as one fund. This is most apparent in FY83 where telecommunications funds were reduced from \$872,500 to \$300,000.

In general, the concept of having seven regional computer centers has been accomplished. Each center is established and fully operational, providing ESV-IS finance services to all member schools and personnel/payroll and student services to those that want them. The regional boards have members who represent school administrators and school boards who have become knowledgeable about computer center operations, and are relying less on staff for technical recommendations, and more on their own knowledge. The regional boards are exhibiting strong leadership in the development of computer services in their regions.

The regional directors have the Peat, Marwick, Mitchell & Co. recommendation for subsidy formula under study and will make their recommendation for the FY84-85 formula in their budget request to the ESV Computer Council.

VI. INSTRUCTIONAL COMPUTING SERVICES

The legislative appropriations for instructional telecommunications contemplated that the State would reduce its support of this service and mandated that a service charge must be added to any programs which were accessed on the central computer but which were applicable to being run on the Apple microcomputer. By the first of November, 1981, all timeshare programs available on Apple II microcomputers were removed from the central computer. The software which remains

are large databases which are accessed via SEARCH, career counseling systems such as MCIS and CIS, electronic conferencing, mailboxes, and other message switching operations, and software utilities programs used in the development of computer assisted instruction.

The instructional telecommunication support funds were also reduced. As a result, the telecommunications network is being restructured from 26 MUX (multiplexer) sites and 315 FX (foreign exchange) lines to 11 leased multidrop circuits. The network now consists of 10 lines radiating from the Twin Cities and generally terminating at community colleges. School districts along the route of these lines are able to tie into the network for a slight additional cost. Other districts who purchase access to the central system must vie for the inwats lines. Because of the requirement that schools support the network beyond the state support, a 50 percent surcharge has been added to the access charges for the non-metropolitan schools. The access charge for metropolitan schools continues as \$1,200 per access compared with \$1,800 for outstate schools. As a result of this restructuring, 60 percent of the non-metropolitan school districts have not renewed their orders for central computer accesses.

The ability to hold the line on the basic cost per access was the result of the replacement of the central computer and a reduction in technical services staff and services.

Emphasis on using microcomputers in the classroom continues to increase. Currently, there are in excess of 3,600 Apple II microcomputers and over 600 Atari microcomputers purchased by school districts under the provisions of the master contract negotiated by MECC. Instructional courseware for these microcomputers is released at the rate of 15 programs per month. Minnesota instructional computing users have more courseware available to them and at a lower cost than anywhere else.

VII. WORK PROGRAM FOR FY1983

The basic work program for FY1983 continues the effort to maintain the SDE-IS and the ESV-IS as viable information systems. No new development is anticipated unless outside funds are acquired for specific purposes, such as a rewrite of the teacher certification system, now over 12 years old and becoming increasingly difficult to maintain and support.

The SDE contract staff will have assigned training duties in FY83 resulting in a more detailed understanding of system software by EDSS programmer staff that now total four F.T.E. with a fifth to be added this summer.

Work is underway to reduce the amount of data currently stored in an on-line mode. While there are financial benefits resulting from an archiving of data, certain flexible manipulations of past data will be restricted due to the archiving plan.

VISION, a general report writer that an end user can operate, will again be upgraded such that the majority of the SDE-IS data can be accessed and manipulated by this tool. To a considerable degree, VISION is a major step in the direction of end user access to SDE-IS data without intercession by Education Data Systems data processing staff.

The Task Forces on student data and personnel/payroll data will complete their assigned tasks and make their final report in November, 1982. The SDE will

review these recommended data element standards and determine the department's ability to meet required reporting responsibilities through the use of the proposed data elements.

Several recommendations will be forthcoming from the ESV Computer Council: Comprehensive Long Range Plan, establishment of a Central Development Group, approval of ESV Regional Budgets, annual and biennial.

The department will be evaluating alternative methods for receiving data from districts and regions on computer tape, floppy disks, and hard copy reports.

The department will work toward better utilization of the database, especially financial data, in the reporting and approval of post secondary and secondary vocational budgeting and financial reporting. Further, the SDE will work towards a department wide goal of replacing manual budgeting and financial reporting with use of the ESV-FIN/SDE-FIN electronic manipulation of UFARS.

Microcomputer technology will receive increasing attention from the regions, MECC, and the department. MECC will evaluate software suitable for administrative computing for small school districts and providing staff support for those systems which are designated as statewide systems. The department will increase its usage of the microcomputer to gain computer literacy for its staff and to augment its present administrative data processing in those areas not presently served.

The Data Acquisition Review Committee will become fully operational and review in a timely manner requests for new data collection or changes in the data collection forms of the department.