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Minnesota State Department of Education
Capitol Square ☐ 550 Cedar Street ☐ St Paul, Minnesota 55101

Phone: 612/296-2358

July 15, 1981

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 Elementary, Secondary, and Vocational Information Systems and the State Department of Education Information System.

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

Sincerely,

John J. Feda

JOHN J. FEDA
Commissioner of Education

JJF:JH
CC: Legislative Reference Library (10)
Ronald J. Laliberte
Charles Coskran

July 1, 1981

DEPARTMENT OF EDUCATION REPORT TO THE LEGISLATURE ON MANAGEMENT INFORMATION SYSTEM DEVELOPMENT January 1, 1981 - June 30, 1981

Dept of Educ 81-1329

I. INTRODUCTION

This report is submitted to the Chairman of the House Appropriations and the Chairman of the Senate Finance Committees pursuant to the Laws of 1981, Chapter 359, Regular Session, Section 2, subdivision 6 (e).

This report covers the period January 1, 1981 through June 30, 1981. The report is organized as follows:

II. DEVELOPMENT OF THE SDE-IS
III. DATA ELEMENT DICTIONARY
IV. DEVELOPMENT OF THE ESV-IS
V. REGION SERVICES
VI. ESV COMPUTER COUNCIL
VII. INSTRUCTIONAL COMPUTING
VIII. WORK PLAN
IX. BUDGET FOR FY1982

II. DEVELOPMENT OF THE SDE-IS

The State Department of Education Information System (SDE-IS) has reached the point in its development where it is impractical and not desirable to return to a manual system. The data which is being collected from school districts is being stored on a database which is available and being used by many different sections within the department as well as the legislature and for purposes of federal reporting. The size of the database remains at approximately 600 million characters in spite of additional data being added because there was a major effort to condense computer programs and eliminate redundant data. Mostly this effort is focused on those computer programs which have to be modified because of changes in the reporting requirements imposed on the department by the legislature or federal reporting standards.

During this reporting period, the department has made a major and deliberate effort to document all 600 computer programs comprising the basic system. Thus far, over 100 programs have been brought up to standard, streamlined where necessary, eliminated if appropriate, and made available for use by other department staff. Rather than store this material in the traditional library of hard copy documents. It is being written on the terminal and stored within the computer itself. This not only provides for easy access to other users, it also provides for partial documentation during development and for ease of change when modifications are made to the program.

The SDE-IS continues to utilize the ESV Region VI (METRO II) computer. In addition to improving the efficiency of the computer programs, the department has arranged with METRO II to increase the amount of storage space which is available to the SDE-IS. This was done in anticipation of the high influx of financial data which will be received through the regional centers as the districts submit their reports, using the Elementary Secondary Vocational Finance System (ESV-FIN) to comply with the Uniform Financial Accounting and Reporting Standards (UFARS) mandate.

Development of the SDE-IS was accomplished partially through the use of staff in the Education Data Systems Section but also through the use of contracted

staff. As the development contract was terminated, the contractor wrote a status report on the system. This report was transmitted to the appropriate legislative committees and is available from the legislative reference library. The report was also used to develop a Request for Proposals (RFP) and issuance of a contract for technical assistance during the FY1981-83 biennium. As it turned out, the same contractor was awarded the new contract based upon the best competitive bid. The need for contracted staff was emphasized with the elimination of three technical staff positions caused by reduced legislative appropriations and the cutback of federal funds which support the Education Data Systems Section. One major component of the new consultant contract is the turning over of the operations and development of the SDE-IS to the state staff, thus reducing reliance on the contracted staff for operations. However, it appears that for FY1981, the combined state and contracted staff will be sufficient only to operate and maintain the system and virtually no new development will be done.

Hopefully, some of the pressure to develop new systems will be relieved by more extensive use of the three generalized data extractors now available to users. The School Financial Equivalents Management System (SFEMS) is a commercial software package which runs on the University of Minnesota Computer Center (UCC) using data from the SDE-IS. When SFEMS is used, the SDE-IS extracts data from the SDE database, performs some additional calculations, and writes it onto magnetic tape which is then run at UCC. Since SFEMS is primarily a financial simulation system, it is used primarily by the legislative research staff and the department's statistics section. TRENDS is a system created to be used by non technical staff who need to display and compare specific data over a period of time. TRENDS also provides for the users to format their own reports, thus eliminating technical staff assistance. VISION is a system created to process SDE-IS data and to graphically and in color display the resulting information onto film or a map of Minnesota school districts. Not only does this make for exciting visual displays of data, it also eliminates the time consuming procedure of transferring data onto maps or making slides. The computers used in this process are at the State Planning Agency, and the University Computer Center. The link for transferring data between the SDE-IS database on the METRO II computer and UCC is an Apple II microcomputer housed in the department.

III. DATA ELEMENT DICTIONARY

The Department has now completed the identification and analysis of all forms used to collect data from school districts. Approximately three fourths of the data elements which are financial in nature have been defined using UFARS standards, and have been placed in the Data Element Dictionary (DED). All data elements used in the SDE-IS finance system are listed and defined.

During this reporting period, primary attention was given to the data elements which are governed by the Personnel Payroll Task Force. To date, 360 separate data elements have been identified, described, defined, and transmitted to the Task Force.

The forms used to collect student data were analyzed to determine the purpose for collecting the data, how it is used, who uses the data, and how it is collected. This information will be assembled and readied for presentation to the Student Task Force.

A total of 57 new forms have been reviewed since January 1, 1981 and placed on the DED. In all, there are 157 in the dictionary and 3,650 data elements.

IV. DEVELOPMENT OF THE ESV-IS

The 1980 legislature provided funds to employ a consultant to assist the State Board with the assistance of the ESV Computer Council to develop a Systems Architecture Plan and a comprehensive long range planning process for the statewide educational information system.

The main points contained in the report revolve around the development of data processing equipment and systems to meet differing types of information needs, which they classified by school districts as simple, intermediate, or complex. It was the consultant's recommendation that simple needs could be met through the use of either manual or microcomputer based systems, whereas complex needs require the use of sophisticated large scale computers. It was also proposed that a Central Development Group should be established to develop standard ESV-IS software and implement it on regional computers, to train users, and to support a central application library. This group would employ MECC and regional staff and would restructure or eliminate the MECC-MIS division responsibilities for development. Currently, the Systems Architecture Plan is under review by the ESV Computer Council and the Department to determine the feasibility and cost of implementing the recommendations.

The second report concerning the Long Range Planning Process was received mid May. It should be emphasized that this is a planning process to develop a long range plan and not the plan itself. In addition to the operational procedures recommended by the consultants, the report also contains the purpose and standards for a plan and the relationship of the Systems Architecture Plan to the Long Range Plan.

The Elementary Secondary and Vocational Information System (ESV-IS) which is the focus of the planning process, was also the focus of the House Appropriations Subcommittee on Telecommunications and Information Systems. The legislature suspended further development of the ESV-IS until analysis has been completed on the feasibility of a Central Development Group. Encouragement was given through continued funding to further development of microcomputer based applications of the Ortonville Micro-FIN type and the Adrian model.

The Ortonville model is a standalone microcomputer based finance system designed for smaller schools. The Adrian model is an extension of the ESV-FIN system which uses the Apple II microcomputer as a data collector and preliminary data editor and which can later transmit completed batches of data to the large computer for subsequent processing.

During this reporting period, the ESV-FIN and the ESV-PPS (Personnel/Payroll System) continue to be maintained and used by districts. There are 457 school districts and other educational units on the finance system. There are 164 districts on the ESV-PPS and 15 districts still on the interim personnel payroll system. In addition, there are 19 schools on the ESV-SSS (Student Support System) which accounts for 110,902 student records. An additional 16 schools with a combined total of 8,500 use the Burroughs scheduling system which is one of the options within the ESV-SSS.

The student system which was originally scheduled to be formally released in January, 1981, was delayed in order to adequately prepare the required documentation and to have the system reviewed by the ESV Computer Council and Student Task Force. The Council is in the process of its review and making recommendations. At the same time, the system is being installed as a pilot in ESV Region II (Duluth) for use by the Duluth school system.

V. ESV REGIONAL SERVICES

As indicated in the report for the period ending December 31, 1980, ESV Regions I (Moorhead) and IV (Marshall) established a cooperative computer center located in Moorhead. This has been accomplished and new dual B6900 model computers were installed and will be operational this fall. The B6700 model computer which was operated by MECC to serve ESV Region IV and the overload of ESV Region I was used as trade-in on the new computer and is scheduled to be shipped back to Burroughs in September. The B6900 computers have sufficient capacity to adequately serve not only Moorhead and Marshall but also to take overload from other regions, MECC, or the State.

The ESV-PPS has been programmed to include the features required of schools in cities of the first class. ESV Region II (Duluth) is pilot testing the system for the Duluth School District and will be converting any other ESV Region II schools who wish to use this system rather than the interim personnel payroll system.

Three hundred thousand dollars of supplemental funding for regions to assist districts in transferring to the ESV-IS was provided by the 1979 Legislature. Fifty thousand of this was allocated to ESV Region V (Mankato) to assist the Rochester School District to transfer onto the Mankato computer. A B1955 model remote job entry station was established at Rochester and is now being used to transmit data and reports to and from Mankato. The remaining $250,000 was granted to ESV Region VI (METRO II) to assist the Minneapolis School District in its conversion effort. Not all of the Minneapolis system has been reprogrammed, however, it is processing its financial data through METRO II and is in conformity with the state mandate. Completion of this conversion effort will take place by December 31, 1981.

ESV Region III (St. Cloud) has promoted the "hub" concept among its districts. The hub equipment was originally a B80 type computer. This has not proven adequate and Region III is changing to the B9500 equipment, which is designed to act as a communicator not only for the traditional terminal, but also for microcomputers. This network is now in place and fully operational.

The ESV Region VII (TIES) has completed its conversion to the ESV-FIN and is now looking at the ESV-PPS to identify those modifications which are necessary to meet the needs of its member districts.

In its original report on the evaluation of the ESV-IS, the consultant Peat, Marwick, Mitchell & Co. recommended that additional variables should be considered in the formula for the distribution of regional support funds. A new formula was developed and a consensus was reached to implement this new formula in FY1982 and FY1983.

On this basis, the full request for regional support aid was funded by the legislature. In FY1982, an evaluation of the impact and equity of the formula will be conducted by a third party consultant.

The regions and the department had also agreed to modify the concept of "telecommunications" and to more broadly define it to become a total "data communications" concept. In effect, besides telephone lines, additional modes of transporting data, such as by U.S. mail, delivery vans, or private delivery services would have been reimbursed. The legislature did not concur in this changed definition and the same level of telecommunications was funded for the biennium as was provided in FY1981.

VI. ESV COMPUTER COUNCIL

In order to expedite the activities of the ESV Computer Council, the department reassigned several staff persons to serve as an interim executive director, to provide necessary clerical support, and to provide professional support to the Student and Personnel Payroll Task Forces. As a result, the Council has organized and become operational. A major recommendation which the State Board has adopted is a moratorium on the purchase of new computer equipment until the Systems Architecture Plan has been approved. Previous to the moratorium, it had reviewed eight proposals for equipment of which seven were recommended for approval. It also reviewed and recommended the further development of the AVTI component of the Student System.

Currently, the ESV Computer Council is, with the assistance of the department, undertaking a review of the regional plans and budgets, the release of the ESV-SSS system, the adequacy and compliance to UFARS of the Ortonville microcomputer based finance system, and the development of data standards for student data, personnel data, and payroll data. In those areas involving financial data, the Task Force reviews the data through the UFARS Council.

The Council also recommended and the legislature concurred to allow the department to delay promulgation of rules on data standards and to set criteria for the creation of regions, transfer of districts between regions, regional operations and alternative financial systems. The approval of a long range plan including the systems architecture plan is considered a prerequisite to the establishment of the rules. In the meantime, the State Board is applying criteria based upon the wording in the statutes.

VII. INSTRUCTIONAL COMPUTING

In total, 98 percent of all students and 92 percent of all districts have access to instructional computing courseware through the 1,288 computer terminals and 2,304 microcomputers located in their schools. Seventy five percent of all districts use the instructional timeshare system and eighty five percent of all districts use microcomputers.

As a result of the increased use of microcomputers, MECC conducted an intensive long range planning project and has recently released its report. The issues covered by the report include: the level of continued MECC timeshare support; the nature of applications to be offered through timeshare computing; the level of MECC support of microcomputing; which microcomputers MECC should support; directions for MECC courseware development; and strategies for providing inservice training to the growing number of educators requesting assistance.

Since the micro-telecommunications study by MECC indicated that 70 percent of the programs on the timeshare system could be adapted to the microcomputer, the legislature decided not to fund the state support of instructional telecommunications after FY1982. As a result, MECC is in the process of developing a plan to transfer the instructional courseware from the timeshare system to the Apple II and to increase the amount of courseware which requires large computer capability, thereby maintaining the economy of the large scale computer. MECC has also prepared a "request for proposals" for smaller size microcomputers which will be less costly but just as effective with certain routine elementary courseware.

VIII. WORK PROGRAM SUMMARY

Basically, the work program for the next reporting period is a continuation of work already in progress or just initiated during this period.

Within the SDE-IS, funds and staff are limited to the maintenance of existing systems. During the next reporting period, the SDE-FIN will become fully operational to accept data from the ESV-FIN. In addition, the levies system, AIDS system and assessment systems will be modified and maintained for FY1982 operations. The SDE-IS documentation effort will continue. Not a part of the department's responsibility, but certainly involving department staff, will be the legislative auditor's analysis and review of the SDE-IS.

The Data Acquisition Calendar will be published by September 1, 1981. As this effort progresses, there will continue to be a collarary effort to review and analyze each of the department's forms.

All data elements, especially student and personnel/payroll elements,will be defined, described, and presented to the Student or Personnel/Payroll Task Forces. During this next reporting period, initial work will begin on the review of the ESV-IS data elements. Parallel to the development of the data standards by the Task Forces, the department will adopt a data management plan that utilizes the two Task Forces and UFARS Council to review and approve proposed new data reporting requirements.

As indicated previously in this report, the ESV-FIN will be maintained and emphasis will be given to completing the Ortonville and Adrian models of the finance system. Both systems will be reviewed by the ESV Computer Council prior to their official release.

The ESV-PPS with the "cities of the first class" options will complete its pilot test at Duluth. The analysis by TIES will also be completed. A plan for future development of this system should be formulated by the end of calendar 1981.

The ESV-SSS review will be completed by the ESV Computer Council and the State Board will have its recommendations laid before them.

The 1981 Legislature provided that there must be an analysis of the feasibility to establish a Central Development Group for the further development of the ESV-IS. The plan to accomplish this analysis has not been completed, however, the analysis should be completed by December as originally proposed, thus making the report available to the legislature in January, 1982.

The long range planning process and the Systems Architecture Plan will also be reviewed by both the department and the ESV Computer Council, and their recommendations reported to the State Board.

Because of the reduced funding for the telecommunications used in the instructional timesharing system, high priority will be given to the initiation of the long range plan for continued use of the system and the distribution of costs for the telecommunications associated with it.

As previously indicated, appropriate instructional timeshare programs will be transferred to the microcomputer. At the same time, the problem of increased demand for training of educational personnel in the use of micros will be attacked.

The ESV Computer Council will have completed its review of, and made recommendations

on the release of the ESV-SSS, the long range planning process, the Systems Architecture Plan, and the regions' FY1982 plans and budgets. Work will begin on the development of recommended policies in the areas of data standards, and criteria for the creation of new regions and transfer of districts between regions.

IX. BUDGET FOR FY1982

The following budget for the FY1982 is based upon the funds directly appropriated to the department, appropriated to the general contingent account, and allocated federal funds.

1.	MECC Operations	$1,384,100
2.	Education Data Systems	$1,134,700
3.	Regional MIS Support	$3,213,000
4.	Regional MIS Telecommunications	$ 757,400
5.	Instructional Telecommunications	$ 950,000
6.	MIS Implementation Consultant	$ 40,000
7.	SDE-IS Legislative Auditor's Audit	$ 40,000
		$7,519,200

Source of funds:

1.	State Allocation	$7,061,200
2.	General Contingent Account	$ 300,000
3.	Federal Funds	$ 158,000
		$7,519,200