

MINNESOTA CAREER INFORMATION SYSTEM



Minnesota Department of Education

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Pursuant to Minnesota laws 1979, Chapter 335, Section 3, Subdivision 15, this report presents the major activities, funding requirements, effectiveness and demonstrated need for the Minnesota Career Information System (MCIS).

History and Authorization

The Minnesota Career Information System (MCIS) was originally established in 1975 as the Minnesota Occupational Information Services (MOIS) with CETA funds provided by the U.S. Department of Labor. Federal funds were decreased each year, with funding to be taken over by the states and by user fees. Executive Order No. 147 established the Minnesota Higher Education Coordinating Board as personnel and fiscal agent. Executive Order 79-35 transferred MOIS, now to be called MCIS, to the Department of Education, but without staffing or funding. Executive Order 83-20 continued MCIS and its advisory council and authorized accepting federal funds. Minnesota Laws for 1983, Chapter 258 section 26, further authorized the Department of Education to collect reasonable fees for subscriptions to MCIS. Presently, MCIS operation is in the Student Services Section which has always regarded career guidance as a primary function of its services.

From the beginning (1976), MOIS used the mainframe computer at Minnesota Educational Computing Consortium (MECC) as the prime mechanism for service delivery. However, by 1982, due to increased timeshare costs and information being outdated, the number of subscribers was reduced by almost one half. At this point it was decided to explore other delivery systems. Following a state survey of schools and other users in the Spring of 1982 and in keeping with the national trend, it was decided to provide career information via microcomputer enhanced by a hard disk to accommodate all the storage needed for a large information system. Additionally, some schools wanted limited computer useage combined with printed references.

The Purpose of MCIS

The goals of a state-specific career information system were enunciated early by the sponsors, the U.S. Department of Labor. They are as follows:

1. Help students learn about and understand the range of career opportunities presently available and likely to be available in the future;
2. Help entrants into the labor force become aware of occupations that they would find acceptable and personally satisfying;
3. Encourage people in the process of career exploration and decision making to seek out vocational information on their own;
4. Increase awareness of major sources of occupational information for the purpose of acquiring knowledge of occupations and training; and
5. Provide support for related programs, including career education, career employment counseling, and manpower and education planning.

In general, MCIS continues to embrace these goals to provide direction for the information system. More recently, JoAnn Harris-Bowlsbey,* a national authority in the field, has recently identified a broader set of goals:

*Harris-Bowlsbey, JoAnn "The computer and career development." Journal of Counseling and Development, Vol. 63, No. 3, 1984, pp. 145-148.

1. Support strong, positive self-concept formation, including sense of autonomy, internal locus of control, and positive role models;
2. Assist with the understanding of personal characteristics such as interests, abilities, and values;
3. Assist with the learning or awareness of effective, perhaps even playful, decision-making styles;
4. Assist with the acquisition of vocational coping skills such as planning ahead and knowing where to find and how to use resources;
5. Assist with the development of awareness of the breadth and richness of career and of the ability to take control of it.

She goes on to point out that while the computer may serve a more limited role as an information resource to a counselor-delivered program of career guidance, future applications of technology in her view would support broader functions and include monitoring, teaching and supporting the career development process. It is these latter domains that enhancements to MCIS are being considered and added. In many ways, the computer software provides a monitoring function for counselors who may drift from their proper guidance course by letting themselves become involved in non-guidance duties.

Effectiveness and Demonstration of Need

School counselors have always felt the need for current Minnesota information on career opportunities. Most information available is developed on a national scale and does not give much information relating specifically to the state. The MCIS is planned to fill this void, and has been developed to meet the needs of counselors in the schools and other settings who may use the program.

The enhancements to MCIS in the field are presently being implemented and evaluated. The user response has just begun and the effectiveness of the MCIS system will be determined this coming year.

The last year MCIS was on the mainframe it was accessed about 300 times per day. It is believed that, with an increased number of schools and agencies participating, plus an increased awareness of the need for career guidance in our changing and technical society, this use will even increase. The recently State Board approved rule on career education and career guidance should encourage more schools to use MCIS as an important guidance tool.

OPERATIONS OF MCIS

MCIS is operated to provide a state specific, dynamic career information system which is affordable and upgraded to current microtechnology. The system is organized into four basic components.

Career Exploration

A key element is the search mechanism called QUEST which sorts 280 MCIS careers according to responses to 21 personal questions and a self evaluation. In its simplest sense, QUEST was designed to help the users apply what they know about their interests and abilities to better understand the world of work. QUEST is also an instructional process that helps people learn fundamental labor market concepts and discover the relationship between their personal choices and occupational alternatives.

Another search tool (just recently added to MCIS) used to sort out a list of personally relevant occupations is an assessment procedure called EUREKA Skills Inventory. This procedure asks the user to identify from a list of 72 skills, ones they feel they possess (or are willing to develop through training) and would like to use in a career. Their responses are then compared in a profile fashion to the skills required in the occupations in MCIS. It is especially useful with older college/vocational students, Vocational Rehabilitation clients, JTPA clients, midlife career changers and displaced homemakers.

Occupations File

With the list of occupations sorted by QUEST or EUREKA, the user next accesses the Occupations file which provides descriptions of 280 major occupations covering 95% of our state work force. Current information is gathered through expert field contacts, Minnesota Department of Economic Security, labor market statistics, census data, state agencies, trade unions, employers, and state licensing boards. Statements describe the nature of tasks performed by workers, abilities and interest associated with the occupation; working conditions including health hazards, entry wages, number of workers employed and the employment outlook. Bibliographic cross-referencing offers the user sources of further information.

Preparation File

Companion file to the Occupations file is the Preparation file which focuses on the general background requirements for entering an occupation. It includes a list of high school courses which are helpful, training requirements, licensing, if any, advancement, employment hints and cross-references the user to the Program file.

Programs of Study and Training File

The Program file contains descriptions of programs offered at the 200 post-secondary schools in Minnesota. Each program begins with a general description and then identifies types of schools where training and education are provided and the degrees (or diplomas) offered. Program admission, typical course work and graduation requirements are described.

Minnesota Post-Secondary School File

The school file consists of descriptions of 200 post-secondary colleges, universities, vocational-technical schools, teaching hospitals and professional schools in Minnesota. The information in the school file is designed for use in the current academic year. Information is presented on up to 103 topics for each school. Using Micro MCIS it is possible for a student to compare at least three schools at a time on a topic to topic basis. The school file helps answer questions about school size, financial aid, housing costs, programs of study, services for handicapped students, tuition, fees and other expenses.

National College File

This file (just recently added to MICS) provides information on 2000 four-year colleges and graduate schools in the country. The annually updated information is organized under 40 topics and students may compare data from three schools at a time via computer. Some of the major topics include: school size, programs of study, tuition, housing, financial aid, student services, handicap accommodations and intercollegiate sports.

Physical & Mental Demands File With Job-Site Modifications

This special file, developed this year, was developed by MCIS for the Division of Vocational Rehabilitation Services. It covers 212 MCIS occupations and provides explicit information on the physical and mental demands of each occupation which is helpful in working with the handicapped student or worker. Additionally, it provides information on how many occupations have been modified at the worksite to accommodate a given functional disability. The file is available in hard copy from MCIS. Computerization of this information is planned.

Methods of Delivery

Sites are offered two delivery options:

Option 1. Micro QUEST: consists of one floppy disk containing the search mode, QUEST, plus all the information files (Occupations, Schools and Programs) in four printed volumes. EUREKA Skills is available as an option on a floppy disk.

Option 2. Micro MCIS: allows QUEST and all the information files to be accessed by a microcomputer (Apple IIe or IBM PC). This is possible for sites that have a hard disk interfaced to a microcomputer to accommodate the large storage needed. Networking of MCIS in a computer lab connecting 20-30 Apples to one host Apple/hard disk is also possible.

Micro MCIS is the first state career information system in the country to go completely to a microcomputerized delivery. Additionally, Minnesota is the first state to network its career information system through a computer lab making multiple, simultaneous use by students possible. All other states continue to use a single terminal, single user system on a state or regional basis.

ENHANCEMENTS

A number of enhancements to MCIS are planned for the future to build a more comprehensive system so that career guidance processes may be fostered.

A State-National Scholarship/Financial Aids File is planned to provide information for students and their families about scholarships, grants-in-aid, fellowships, honor awards, educational loans and work-study programs available in Minnesota and nationally. A grant from the Minnesota Academic Excellence Foundation provided a printed copy for each high school in the state. Additional funds are being sought to develop software to put this important file on the computer.

The Military Occupations File is a file of 200 military occupations being developed in cooperation with the National Career Information System under a grant from the Department of Defense. It will be established as a separate file with cross-references to other files particularly the MCIS occupations file. This file is planned for piloting in the Spring of 1985.

DISCOVER, a nationally oriented career information system has been added as an option to accommodate those schools and agencies desiring to complement MCIS which is a state-data based system. By entering into an agreement with the American College Testing Corporation (ACT) it will be possible to provide Minnesota users with this software at a reduced cost.

The High School Planner is a guidance tool which is a computer-based procedure for helping students select their four-year high school courses in relation to their career choices and post-secondary training plans. It is linked to the MCIS system in concept. A pilot project of this software is planned for the Spring of 1985 with 5 or 6 sites. Funding will be provided by the Hennepin Technical Centers as part of their career education effort.

SERVICES AND OTHER SUPPORT MATERIALS

Inservice Training is provided on a periodic, regional basis to enable use of MCIS with expertise and ease. Familiaring the user with the many aspects of MCIS as quickly as possible is a priority of MCIS through staff training. Regional workshops are planned for early 1985.

The Implementation Handbook explains the step by step process of MCIS, QUEST and EUREKA Skills and the role of site coordinators is detailed. A technical aid section provides information on the microcomputer/hard disk system. A resource section provides additional information for counselors and MCIS coordinators.

The User's Handbook contains information about MCIS and instruction on how to use the system. QUEST is included so individuals may answer the questions thoughtfully before they use the computer. Occupations and Programs are listed alphabetically with cross references to the MCIS occupations or MCIS programs of study. Information about the School files, computer commands, Job Search information and National School information is included.

The MCIS Newsletter keeps users informed on various aspects of MCIS and is periodically published. State and National CIS news, general information, updates on enhancements and special articles are featured.

ADVISORY COUNCIL

The Governor's Advisory Council meets on a quarterly basis and reviews the progress of MCIS activity (see list of members attachment A). The Council is chaired by Prof. W. Wesley Tennyson of the University of Minnesota. Primary concerns of the Council include stabilizing MCIS income from user fees and decreasing dependency on grants now that the transition from mainframe to microcomputers has been completed; developing a market plan and implementing the enhancements to MCIS which have been recommended by them.

FUNDING REQUIREMENTS

Costs & Income

Currently funding support for MCIS has been received from the user fees and a small number of grants. Major costs include membership fees to national CIS, software development, computer hardware, printing and staff salaries. The bulk of the updating work is being done by three contracted workers assigned as information specialists. The LAC at their September meeting approved that these positions be established as regular classified positions. The Student Services Section has provided time of two clerical and one professional staff to fulfill other work commitments. The MDE Word Processing Center has prepared some of the material (e.g. User's Handbook and Coordinator's Implementation Manual). Other technical assistance has been contracted to develop the changes in computer processing and routine problems associated with software/computer systems.

Funding support remains a concern. The need is to rebuild the system by keeping user fees low and increasing subscriptions. User fee for MCIS was set at \$375 this year for Micro-QUEST with printed reference volumes and \$600 for the fully computerized version.

Major factors in determining annual user fees is the costs of updating and number of user sites. The major cost consideration, continually updating the information, remains the same regardless of the number of user sites. After the current fiscal year, financial needs will be reassessed to determine future actions such as increased user fees or other funding sources.

Status of Subscriptions

Over 100 sites have ordered the Micro-QUEST option which includes the QUEST diskette and four printed volumes containing completely updated occupation and school information for 1984-85. Another 60 sites have ordered the completely computerized version. Additionally 125 vocational rehabilitation counselors will be using the four reference volumes again this year. The same 125 Rehab Counselors will also be using the special occupational files developed for them by MCIS to accommodate handicapped or injured workers. This means 285 units of MCIS are being used this year excluding the 125 counselors using the special rehabilitation file. At the time the MDE took over MCIS only 147 sites were still using it on the mainframe computer at MECC.

INTERAGENCY COOPERATION

An area where considerable effort has been exerted the last two years is in the degree of cooperation and support provided by a number of state agencies and boards. The list below will provide some examples of the kinds of support and cooperation which has been received.

<u>Agency</u>	<u>Support Examples</u>
Minnesota Occupational Information Coordinating Committee (MOICC)	Funds for reorganizing data files to meet new national standards. Conversion of MCIS Occupational codes to SOC Codes.
Governor's Job Training Office	Funds for software to accommodate the older client as well as updating of some files.
Research Office, Dept. of Economic Security	Wage, employment statistics and outlook data for 160 occupations.
Dept. of Labor & Industry	Data on health hazards of high risk occupations.
Minnesota High Education Coordinating Board through Interagency Resource Center	Funds to update occupations file (first phase 1983).
Division of Vocational Rehabilitation Services	Development of the Special Occupations file for handicapped workers

Agency

Support Examples

High Tech Education Legislation
Article 8

Funds to duplicate national software and inservice training of MCIS users.

Hennepin Technical Centers,
Intermediate School District 287

Funds to implement and adapt the "High School Planner" software to Minnesota (13 school districts)

Minnesota Academic Excellence
Foundation

Funds to print Scholarships and Financial Aids publications for Minnesota schools.

SUMMARY

MCIS which started out as a mainframe career information service (1976) available on a teleterminal with phone hook-up has undergone considerable change in technology and software development in the last two years. The subscribership which declined dramatically in 1982 due to the high cost of a mainframe computer and telecommunications has become to rebuild with confidence in a new microtechnology which now offers networking capability permitting multiple users in a computer lab fostering its use with classes in career planning and high school course planning. In addition, new software now offers expanded data files and new access strategies. The "High School Planner" software now introduces a new enhancement which extends the purpose of computer-based systems to provide a feature which facilitates more advanced career development processes. It is hoped that as confidence in the system grows increased users will follow providing the funding necessary to maintain the system.

Attachment A

Governor's Advisory Council
Minnesota Career Information System
Minnesota Department of Education

Merna Smith
Non-Public School Counseling Program
Minneapolis Public Schools
807 NE Broadway
Minneapolis MN 55413

Dr. Gerald Thompson
Senior High School
6425 W. 33rd Street
St. Louis Park MN 55426

Marla Davenport
TIES, Computer Region VII
1925 West County Road B-2
Roseville MN 55113

Dr. Wesley Tennyson (Chairman)
Counseling Psychology & Student Personnel
139 Burton Hall
University of Minnesota
Minneapolis MN 55455

John Cosgrove
Minnesota Occupational Information Coordinating Committee (MOICC)
690 American Center Building
150 East Kellogg Boulevard
St. Paul MN 55101

Medappa Chottepanda
Research & Statistical Services
Minnesota Department of Employment Security
390 N. Robert Street
St. Paul MN 55101

William Niederloh
Minnesota Division of Vocational Rehabilitation (DVR)
Third Floor, Space Center Building
444 Lafayette Road
St. Paul MN 55101

Dr. Gary Joselyn
State-wide Testing Programs
University of Minnesota
Room 452 2610 University Avenue
St. Paul MN 55114

James Henderson
Job Counseling Service
Minnesota Department of Employment Security
390 N. Robert Street
St. Paul MN 55101

Dr. G. Dean Miller
Minnesota Career Information Service (MCIS)
Minnesota Department of Education
Capitol Square Building, Room 635
St. Paul MN 55101

Arland Siebrecht
Vocational Placement Specialist
South Washington County School District
Park High School
8040 80th Street So.
Cottage Grove MN 55016

Sharon Speich
Inver Hills Community College
8445 College Trail
Inver Grove Heights MN 55075

Lois Albrecht
Riverwood Community Center
7150 E. River Road
Fridley MN 55432

Steve Frantz
JTPA (CETA)-School Career Development Linkage
Minnesota Department of Education
Capitol Square Building
550 Cedar Street
St. Paul MN 55101

Pat Tupper
Department Library Supervisor
Minnesota Department of Education
Capitol Square Building
550 Cedar Street
St. Paul MN 55101