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ABSTRACT

The 1977 activities and progress of the Wisconsin Occupational Information System (WOIS) are described in this second annual report. An introduction presents an overview of WOIS, including a description of the computerized system, which is designed to provide quick, accurate, up-to-date occupational information for career decision making to a variety of persons. The body of the report is divided into seven sections: (1) administrative and organizational information, including the staffing pattern and job description for WOIS; (2) information development; (3) delivery systems; (4) user services (product, price, inservice, promotion-marketing information); (5) evaluation; (6) financial information (WOIS salaries and wages, direct and indirect costs) and (7) future directions for information delivery, information development, user services, and evaluation procedures. Data tables are presented throughout the report, and a ninety-three-page appendix includes such items as a sample occupational description, sample quickie questionnaires, a user services brochure, and sample user survey sheets. (BL)

ANNUAL PROGRESS REPORT

Wisconsin Occupational Information System

July 14, 1976 - July 13, 1977

Second Year of Operation

Prepared by

Roger H. Lambert, Director
David H. Miller, Information Development Manager

James Augustin, Evaluation Specialist
David Caulum, User Services Manager
Carl Grady, Delivery System Specialist
Darcy Mellen-Sullivan, User Services Specialist
Lois Radtke, User Services Specialist
Dean Wiseman, User Services Specialist

Kay Elwers, Information Development Specialist
David Miller, Information Development Manager
Mary O'Connor, Information Development Specialist
Pete Oemichen, Information Development Specialist
Marilyn Sneiderman, Technical Assistant

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Wisconsin Vocational Studies Center
University of Wisconsin - Madison
321 Education Building, Box 49 • Madison, WI 53706

Merle E. Strong, Director
Roger H. Lambert, Associate Director
Phone: 608-263-3696

Preface

The second annual progress report of the Wisconsin Occupational Information System is an attempt to describe the activities and progress which has taken place during fiscal 1977.

During this time period the Wisconsin Occupational Information System project was operated with funds from the Department of Labor-National Occupational Information Services (now known as the Division of Career Information Services), the Wisconsin Governor's Manpower Office and the Wisconsin Board of Vocational, Technical and Adult Education. The Governor's Manpower Office received the Department of Labor grant and in turn subcontracted it to the Wisconsin Vocational Studies Center for development. A portion of the information development activity was subcontracted to the Department of Industry, Labor and Human Relations as part of the overall plan for development.

Staffing for the project was done at the Wisconsin Vocational Studies Center with most staff continuing into the second year. The report reflects the combined efforts of this staff and the cooperating agencies in implementing Wisconsin Occupational Information System in its second year of operation.

Acknowledgments

During the second year of Wisconsin Occupational Information System operation it was readily apparent that many individuals and organizations would contribute significantly to the development of the project. Mentioning them by name would fill another book, but in an effort to recognize these people, I will identify major groups which assisted in this effort. First, the Wisconsin Occupational Information System Board provided able direction to the project as well as support for its activities. The regional computer centers, the Cooperative Educational Service Agencies, the many counties and the Local Vocational Educational Coordinators across the state, the state agencies such as the Department of Public Instruction, the Vocational, Technical and Adult Education Board, and the Department of Industry, Labor and Human Relations, the Governor's Manpower Office and others all responded with cooperation and enthusiasm when called upon for help or to deliver their part in the project.

At the national level the Department of Labor-National Occupational Information Services (now Division of Career Information Services) provided considerable help and service to Wisconsin Occupational Information System staff during the year.

Lastly, a word of thanks is due the staff who toiled diligently to achieve the project's second year goals.

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A. Abstract

The Wisconsin Vocational Studies Center, University of Wisconsin-Madison was chosen by the U.S. Department of Labor National Occupational Information Service to implement an occupational information system in Wisconsin under a grant to the Wisconsin Manpower Services Council. The grant was one of an initial eight for state-wide occupational information system development. The second year of the project has been completed. It is expected to continue on a permanent basis with federal aid decreasing each year until agencies and users bear the total cost of the system. The Wisconsin Occupational Information System (WOIS) combines computerized and manual information files, audio-visual materials and printed materials relating to national and state occupations, training institutions and institutions of higher education, financial aids, human resources and training programs in the military. The central staff of WOIS collects information from such "providers" as the Job Service, Department of Labor, and educational agencies and organizes it for easy individual access by such "users" as high school students, the unemployed, and other job seekers.

B. Wisconsin's Computer Based Career Information System

The Wisconsin Occupational Information System (WOIS) is a computer based program to provide quick, accurate and up-to-date occupational information for career decision making to a variety of publics. Student entrants into the labor force, the unemployed, minority groups, educational and manpower planners, inmates of correctional institutions and clients of vocational rehabilitation facilities are all potential users. The goals of the program are:

1. To help persons learn about and understand the range of careers currently available and likely to be available in the future.
2. To help labor force entrants become aware of occupations which are acceptable and personally satisfying.

3. To encourage persons in the process of making career decisions to explore vocational possibilities on their own.

4. To increase awareness of major sources of occupation information.

5. To provide support for related programs including career education, career and employment counseling and manpower and educational training.

1. System Components

WOIS contains four major components for delivery of information to users. The heart of the system consist of separate computerized files for 1) national occupations 2) state occupations 3) 4 year colleges nationwide 4) graduate programs nationwide 5) education and training of less than a baccalaureate degree 6) financial aids and 7) career resources.

Access to the information files may be direct or structured and is accomplished via a computer terminal located at the school or other user site. Structured access enables individuals to develop self descriptions which are then used by the computer to select occupations or other information depending upon the type of file. Direct access enables the individual to identify immediately specific information about jobs, colleges or other items from any file by directly inserting a code number which corresponds to a particular occupation, college, financial aid, or training program.

The second major component is the manual access system. This system includes a set of scan sheets that allow structured searching of the 400 WOIS occupations. When particular occupations have been identified, users can look up descriptions of these in the printed material provided for the manual system.

The printed materials make up the third major component of WOIS. These descriptions contain information that is based on the information in the computer version of WOIS. In addition, the manual version includes references to two types of training available (less than 4 year schools, and 4 year schools), career resources such as information on agencies, professional and trade associations and individuals available for providing additional information on particular occupations.

The fourth component of the Wisconsin Occupational Information System consists of various types of audio-visual materials such as Employability Skills Program and other career education filmstrips, films, and audio tapes. These materials supplement the information in the automated and printed materials files. A description of the components of WOIS follows.

2. Involvement of Students, Parents and Professionals

The major components of WOIS are designed to be usable by the student. The computerized files, the scan sheets, the printed materials, the Employability Skills materials and other audio-visual materials are easily manipulated with relatively little instruction needed prior to operation. The students are provided with instructional guide, worksheets and computer command displays, developed for self-instruction.

When the student types in the appropriate command, this signals the computer to respond on the basis of instruction. If the student is just starting the system the computer will ask him/her to identify the program or file. The student then types in a code, such as OCCU for occupational information at the national level, or SOCC for information at the state level. He/she may also choose any of the other files in the system; steps for accessing the files are contained in the user guide. Disposable worksheets are provided so that the student guide may be reused many times. Five basic commands are used to interact with file information. The "A" Command means add, "S" means subtract, "E" means either/or, "D" means delete and "P" means print. In addition to the specific letter command the student inserts the code number for each characteristic to be included in the search strategy.

Each file operates in the same manner. Users select from descriptor groups, add, subtract, or delete items as they progress through the exploration of the file content. At various points they may ask the computer to print out certain kinds of information such as a list of schools, occupations, human resources or financial aids. They may also ask the computer to print specific information on any one or several of the titles previously listed. For example, the search may have been narrowed to three specific occupations. First, the titles of the occupations can be printed and then the complete description of one or all three. The printouts provide a permanent record for the student and may be used for discussions with counselors, parents or others. When sufficient information has been secured, an appropriate command is entered which signs off the file and readies the system for selection of another file or the exit program.

The exiting strategy questions the student about whether the necessary information was provided. For example, if satisfactory information is secured, the computer responds with the next step in career planning. This may be a visit to a counselor or consideration of another resource such as Employability Skills or other printed materials. If the student does not secure the information, the computer will respond with directions to re-enter the system or obtain additional information from other sources such as the WISC Deck or printed information. The specific directions will depend on the student's assessment of the interactions with the system.

the WOIS instuctor guide details the file information and the strategies used in accessing the computerized files. The interrelationships of the computerized files, the manual system and the audio-visual material are also explained. The instructor guide provides information on access to or utilization of the file which is not included in the student use guide.

A guide for parents is also included. This explains the system, the kinds of information available and the process used to obtain the information. It also includes suggestions on how parents might discuss this information with their child, an explanation of the computer printout, and a listing of other information which may be available to the student.

3. File Contents

The Occupational Information files are the most significant part of the system. Detailed descriptions of 400 occupations at the state level and over 1,000 occupations at the national level are included. The WOIS staff are working closely with the Bureau of Research and Statistics, Department of Industry, Labor and Human Relations, the Job Service Offices throughout the state, and other information sources to supply accurate information. Each occupation is assigned a 6 digit code number from the Dictionary of Occupational Titles. This serves as a source for exploring other occupations with related work characteristics. Each occupation is cross referenced to the other files, to the WISC desk, to educational requirements and to military occupations.

The purpose of each job is defined and explained interms of specific duties and tasks. The working conditions or work environment is also detailed. Information is included on where the work is done, i.e. inside, outside, assembly line or small office. Work hours, limitations, temperature and climate conditions, the degree of physical involvement (including any special or dexterity problems), the amount of personal contact with others, and environmental problems are incorporated. Information on earnings, including hourly rates, beginning, average and maximum salaries appears in the description. Pay provisions, fringe benefits, vacation and other economic considerations including costs to worker for union membership, tools, uniforms, and equipment are also found in this material. Also included is a description of labor demand with employment forecasts on state and regional bases.

Each job description has a formal career ladder and explains promotional opportunities and pre-entry requirements including training levels and locations. Jobs with similar work traits are referenced, as are several sources of additional occupational information within WOIS. Military occupations are cross indexed to enable the user to relate civilian job titles and training opportunities to those in the military. References direct the user to the military occupational source books for further information.

The education and training files contain information on four year colleges nationwide and more than one hundred Wisconsin institutions which provide less than a baccalaureate degree. A graduate school file is also available which provides information on over 800 graduate school services and program offerings. The Wisconsin file covers all of the public vocational technical schools, the two year University center, proprietary schools, and others. Information on programs of study, fees, tuition, size, location, extra curricular activities and many other points of information.

The financial aids file contains information on Federal, state and local student financial aids and sc holarships. It describes the type of aid, the eligibility requirements, the amount, the number awarded, the application procedures, deadline dates, source of further information and other pertinent details.

The career resources file is designed to provide the user with names and addresses of individuals, agencies and organizations which may be contacted for further information concerning occupations, careers, career planning or other student needs.

4. The Software for the Delivery System

The software for the delivery of the computerized information is the

Guidance Information Sustem (GIS), a product of Time Share Corporation and the Houghton-Mifflin Company. The present Guidance Information System evolved from concepts and experiences resulting from a project sponsored by the U.S. Office of Education at Harvard University. This project, the Information System for Vocational Decisions, was a three year effort initiated in June, 1966 by David V. Teideman, Professor of Education at Harvard.

The Guidance Information System makes it possible for students to explore large data files stored in a computer and to examine the ways in which their personal criteria for selecting occupation, education and the other information affects the range of opportunities available to them. When the student sends instructions to the computer, he/she receives an immediate response which allows him/her to compare the results of choices and decisions with the results of other choices.

The unique aspect of the Guidance Information System is that it allows for direct interaction with the information. The individual may change instructions at any point, thereby taking responsibility for decision-making. The intention is not to provide matching or placement services, but to close the communications gap between the facts and those who need to use those facts for effective career choices.

The design of the software system is such that each file is entered individually. This characteristic has both advantages and disadvantages. The disadvantage is that a student must select one file to work with at a time and therefore cannot secure information from another without changing files. The advantages of this type of system include 1) core requirements are small, making it inexpensive to run and 2) the addition of files to the system such as a human resource file and financial aids file or others, does not overload a small computer.

5. Hardware for the Delivery System

Hardware used in the delivery of the WOIS includes computers, telephones, computer terminals, microfiche readers and/or reader/printers, filmstrips, slide and movie viewers and cassette players. Several types of computers are currently being used, including the Hewlett-Packard 2000 and 3000 series, the UNIVAC 1110 and the DEC PDP 11/45. In the near future it is expected that the program will run on IBM and Burroughs equipment as well as models of the previously named systems.

Teletypes connecting the computer system vary in cost and design. The most common are basic teletype units capable of printing ten characters per second, although other units capable of up to 30 characters per second are also used. The slower units use mechanical printing capability while the faster ones generally have thermal printing features. Cathode-ray tube (CRT) terminals with thermal printers are also possible. The printing capacity is necessary to provide users with a permanent record of the information requested. The terminals are connected to the computer by either didicated telephone lines or a dial access system. The dial access utilizes a regular telephone with an acoustic coupler at the terminal. When the telephone receiver is places on the acoustic coupler, it connects with the computer. The didicated line is a direct connection from the terminal to the computer and is generally the most economical. Microfiche readers and other audiovisual tools found in most audiovisual departments are also used with the program.

6. WOIS User Costs

The cost of provideing WOIS to the user is between three and four thousand dollars per year, per terminal location. This cost includes the computer time, terminals, line charges, in-service training, the WISC deck, the student user guides, instructional manuals, and the student worksheets. Additional cost on a one time basis may be incurred to acquire audiovisuals and other printed materials. The cost to an individual school depends on three things: 1) the type of terminal rented or purchased 2) the distance and type of communication line to the computer source and 3) the number of students having access to the individual terminal. Every attempt has been made to keep the cost to a minimum. Considering the quantity of information, its comprehensive and current nature, the cost for full time use of WOIS is surprisingly low. Approximately 1,200 students can be accomodated by one terminal during an academic school year. In many schools, the cost of the hardware and communications can be spread over additional uses, such as computer assisted instruction and administrative systems available at the distribution centers.

7. Organization of WOIS

The Wisconsin Occupational Information System is governed by a Board of Directors which is a policy making consortium representing secondary and higher education, manpower and social service agencies, management, labor and other interested groups. The Board constitutes a Special Task Force of the Wisconsin Manpower Council and is authorized to receive and expend Federal monies. It meets on a bimonthly basis and is actively involved in the development and implementation of the program.

A central staff takes responsibility for overall system development and updates occupational information for the delivery centers. It collects information from "providers" such as Job Service, Department of Labor, educational agencies, state planning agencies and business and industry and organizes it so that "users" will have easy and consistent access to it through various audiovisuals, computer terminals and microfiche.

State wide delivery of WOIS is organized through regional destribution centers, existing or planned facilities capable of delivering computer assisted instruction to local high schools, colleges and other agencies. Regional delivery makes use of existing computer center and terminal configurations, minimizes tele-communication costs and allows the system to run on different types of hardware. A central computing facility will provide regional centers with an updated tape twice each year.

8. Development of WOIS

Currently in its second year of operation, the program is a result of a grant from the U.S. Department of Labor/National Occupational Information Service. Seven additional states from an initial 45 applicants were also funded. The Wisconsin Vocational Studies Center, University of Wisconsin-Madison, was chosen to implement the program with the Wisconsin Manpower Services Council acting as the state agency responsible for receipt of funds. The grant is expected to continue over a period of four years with the amount of federal aid decreasing each year, until the total operational cost is borne by the agencies and users involved.

The need for a state-wide occupational information system in Wisconsin was made clear when several agencies within the state made independent attempts to provide information to those in search of jobs or job training. None of these programs was of sufficient scope to be classed as a statewide comprehensive occupational information system. The necessary stimulus for the statewide network was the OIS grant program.

9. Summary

The Wisconsin Occupational Information System provides young persons and adults in Wisconsin with a unique and comprehensive source of information for career planning and decision making. Using the automation of computers coordinated with manual information files, the system relieves the professional staff of the time consuming chores of gathering, filing and relocating information for student or client use.

Major compoments of the automated system include information at the local, state and national level pertaining to occupations, vocational training, four year colleges, graduate schools, military jobs, financial aids and career resources for personalized job information.

The involvement of numerous state agencies in a consortium effort to provide this comprehensive system of career information and related guidance materials enables local schools, colleges, technical institutes, job service offices, vocational rehabilitation offices and others to utilize the system benefits at a fraction of the cost of individual development and maintenance.

I. Administrative and Organizational Information

A. Consortium

The Wisconsin Occupational Information System is governed by a Board of Directors made up of representatives of information suppliers, suppliers of operating funds and information users of the system.

Board members are selected by their respective agencies. At the first board meeting each year, officers are chosen to serve one year terms on the board. H. Jim Jackson was selected for a second term and served as board chairperson during the last project year. Don MacTaggert was elected vice chairperson in December after the resignation of Ellen Meister who was serving a second term as vice chairperson. The composition of the Board of Directors for the 1976-1977 project year was as follows:

Steve Born, representing the State Planning Office Department of Administration.

Terry Willkom, representing the Department of Health and Social Services.

Dick Johnston, representing the Division of Studen Support, Higher Education Aids Board.

Richard Sawicki, representing Wisconsin State AFL-CIO.

Tom Hooker, Representing The Department of Industry, Labor and Human Relations

Lorran Celley, representing the Wisconsin Board of Vocational, Technical and Adult Education.

Hartley Jim Jackson, representing the Bureau of Research and Statistics, Department of Industry, Labor and Human Relations.

Gene Craven, representing the University of Wisconsin Central Administration.

Andy Cohn, representing the Wisconsin Manpower Council.

John Storlie, representing the Distribution Center at the University of Wisconsin-LaCrosse.

Al Thurner, representing the Milwaukee Public Schools.

Ellen Hanson, representing the Department of Local Affairs and Development.

Ellen Meister, representing the Madison Public Schools.

Donald Jacobson, representing the Holmen Public Schools.

Robert Van Raalte, representing the Division for Instructional Services, Department of Public Instruction.

Donald MacTaggert, representing the Ashwaubenon Public Schools.

Donald Mrdjenovich, representing the Watertown Public Schools.

Roger Lowney, representing the Merrill Public Schools.

William Wilberg, representing the Wisconsin Manufacturing Commerce.

The minutes of all board meeting held during the 1976-1977 project year were recorded and distributed following each meeting. (See minutes of Board Meetings [Appendix IA])

B. Staff

1. Staffing Description

The staffing pattern and job descriptions for WOIS in 1976-1977 follows:

Executive Director	Roger Lambert serves as the Executive Director of the Wisconsin Occupational Information System (WOIS). Dr. Lambert received B.S. and M.S. degrees in Education from the University of Wisconsin-River Falls. He received the Ph.D.in Education from Michigan State University. Lambert is responsible for coordinating and supervising the WOIS operation. In this role, he provides leadership to the organization's activities and serves a liaison with WOIS Board of Directors.
Deputy Director	Shelley Cary served as Deputy Director on the WOIS project. He received his Ph.D. from the University of Wisconsin-Madison in Educational Administration, a M.S. degree in Educational Administration from the same institution and holds a B.S. degree from the University of Wisconsin-Platteville. His experience includes: Superintendent of a vocational district in Illinois, High School Principalship, Vocational Coordinator, Adult Education Coordinator, university, highschool and elementary teaching assignments.
Manager, Information Development	David H. Miller serves as the Occupational Information Development Manager for the WOIS Project. Miller received his B.S. in Industrial Arts Education and his M.A. in Secondary Education from Murray State University. He received the Ed.D. degree in Education from the University of Missouri-Columbia. Miller is responsible for managing the identification and selection of occupational information that is specific to the state of Wisconsin and making it available for retrieval by computer. Other resource materials that can be used to supplement the computer access material will also be identified by the Occupational Information Development Manager and the Occupational Information Development Specialists. Additional responsibilities lie in the areas of evaluating and updating occupational data.
Manager, User Services	David A. Caulum serves as the User Services Manager of WOIS. Caulum received his M.S. and Ph.D. in Guidance and Counseling from the University of Wisconsin-Madison. He is responsible for the supervision of all user services activities. He also explains and publicizes the WOIS to representatives of potential user agencies, coordinates in-service training activities for counselors and other user agency staff, directs contract negotiations between WOIS and user agencies.

Information Development Specialist	Peter Oemichen serves as an Information Development Specialist for the WOIS Project. He holds a B.S. degree in Economics. His experience in the field includes five years as an Occupational Analyst. Oemichen's responsibilities as an Information Development Specialist are to research, compile, analyze and report occupational information for the WOIS Program. He will analyze relationships between dissimilar occupational information systems and determine methods for comparison and validity of comparisons. Additionally, he provides technical assistance in developing an information reporting format which will accomodate information required for WOIS users.
Delivery System Specialist	Carl R. Grady serves as the Delivery System Specialist for the Wois Project. Grady received his B.S. degree from the University of San Francisco. His duties with the WOIS include the coordination and implementation and/or modification procedures and adoption of the appropriate delivery system for the WOIS. In addition, he handles all facility problems arising in the WOIS implementation and will assist in the analysis of occupational information in cooperation with the WOIS staff.
Evaluation Specialist	James W. Augustin serves on-fifth time as an evaluation specialist for the WOIS staff and program. He received his B.S. degree in Psychology from Trinity University and his M.A. degree in Psychology from Marquette University. Augustin has completed his course-work toward a Ph.D. in Psychology at North Carolina State University. He is responsible for assisting the project staff in the design of an evaluation of the WOIS processes and impact.
Information Development Specialist	Mary O'Connor serves as an Information Development Specialist. She received a B.A. degree in Art History in 1972. Her responsibilities will be to research, compile, analyze and report information for the Financial Aids file, Education and Training file, and the Human Resources file in the WOIS. In addition, she will prepare all information on the three files for computer input.
User Services Specialist	Darcy Mellen-Sullivan serves as a User Services Specialist. She has received a M.S.E. degree from Drake University and a B.A. from Parsons College in Iowa. Her experience includes; teaching assignments of English and History on the high school level, counselor-in-interviewer for mentally retarded and Facilitator for assertive training groups.
User Services Specialist	Dean Weisman serves as a User Service Specialist, He has received a M.S. degree in Industrial Education from the University of Wisconsin-Stout and a B.S. degree in Education from the University of Wisconsin-Eau Claire. He has served as a District Administrator for 14 years, a high school principal and guidance counselor for one year and taught English and drama for ten years.

Information Development Specialist	Kay Elwers was employed as an Information Specialist on the WOIS staff during the project year. She holds a B.A. degree in History from the University of Wisconsin-Madison. Her work experience includes ten years as a teacher of history and social studies at the secondary level and ten years with the Research and Statistics Division of Wisconsin's Department of Industry, Labor and Human Relations. She also has a background in business and office work and currently serves as a member of the State Superintendent's Advisory Board for Business and Office Education. Additionally, she has served as a resource person in in-service teacher training programs dealing with cancer education.
Research Assistant	Marilyn Sneiderman serves as a Research Assistant in the Information Development Section at the Department of Industry, Labor and Human Relations. She is responsible for gathering data used in reporting economic information for WOIS occupational descriptions and assists in maintaining files that serve to document the information reported in the system.
User Services Specialist	Lois Radtke serves as User Services Specialist. Radtke received the B.A. degree in Secondary Education from Concordia Teachers College, River Forest, Illinois. She taught at the secondary level for three and one half-years in Milwaukee. She received the M.S. degree in Counseling and Guidance from the University of Wisconsin-Madison in May 1977.

II. Information Development

A. Emphasis during 1976-1977 Project Year

In addition to the responsibility for identifying and analyzing occupations for the WOIS system, the information development section is responsible for the identification and organization of training information and the listing of financial aids and career resources for users of the system. The responsibility for the development of information for the system often extends to providing input to user services staff on ways to improve delivery of information to users. During the last project year the information development staff redesigned the cross-referencing listings in the various files by inserting direct commands in the place of a general cross-reference. This has proven to be a marked improvement over the original delivery format. Input was also provided to the user services staff on ways to improve user materials be showing the number of times each selector in the system has been assigned. This change would reduce the possibility of the users reducing the search options as a result of arbitrarily listing the order of selectors in a search. Information development materials provided the basis for selectors used in the paper scan materials that are currently under development.

B. Job Selections

The second year of the project called for the selection and development of an additional 150 occupations bringing the total number of jobs in the system to 400 (see 150 Wisconsin Occupations--Appendix IIA). Job selection procedures detailed on pages 21-22 of the 1976 Progress Report were followed for the most part for the selection of the 150 jobs. The selection procedure could not be guided as relevantly by the occupational projections for Wisconsin as it was for the first 250 occupations. The reason for this is that 48 occupational categories (a full 30 percent of Wisconsin's 1970 employment) are either NEC, miscellaneous, other, or allocated. This makes the census occupational groups in the projections largely useless as guides beyond 250-300 job selections. To substitute for this shortcoming, information developers applied various other criteria. Among those employed were educational areas unrepresented or poorly represented by jobs; nationally viable job opportunities and skill levels that were poorly represented by the job structure in WOIS. Excluded from consideration were factors that reflected on-the-job training as a viable employment opportunity. This was ignored primarily because most of those jobs with average or better than average employment opportunities were already in the system.

C. Occupational Information

The development of occupationally specific data for the 150 jobs followed the same pattern used for development of the first 250. An outline of this process can be found in Appendix II B. Deviations from these procedures are outlined below.

1. Advancement and Transfer Opportunities

This portion of the job development schedule has been changed. Instea of transfer opportunities we are now reporting related job opportunitie The reasoning for this change is that transfers from one job to anothe imply that some sort of "path" between the jobs in question exists. Union contracts and multiples of possible paths are two very good reasons why transfer opportunities for a given job are difficult to identify and confusing to report. Related job opportunities is a more simplified approach to linking one job to other in the world of work.

The leading criteria used was to associate jobs with each other in the most visible way so that users could see the logic. Therefore, occupational characteristics such as jobs around machines, helping or serving people, the work setting, and working with tools and hands were felt to provide a visible association that a user could understand. Whereas characteristics such as related skill levels, job knowledges and job content were not considered to be visible and thus were not given primary consideration when jobs were related. When the skill level of a job was quite high, indicating that the user would be interested in higher skilled jobs, skill level was given somewhat greater consideration when relating jobs.

In addition to the changes in the aforementioned section, information development also modified the writing style of presenting data in the Method of Entry, Related Job Opportunities and Advancement Opportunities sections. (See occupational description samples, Appendix IIC)

D. Information Updating

Information in the following categories has been revised for the September 1, 1977 computer update.

- Wages
- Employment Outlook
- Job Selections
- Selectors and Keying of Occupations

Human Resource files and Inter-file References are two areas that have not been completed. The Human Resource file is awaiting action to be taken this fall by the Wisconsin Job Service. Occupational developers have been working with the Job Service to develop a human resource visit file that is both practical and functional. In early September 1977, there will be an additional meeting to plan a human resource visit file in a Job Service District on a trial basis.

Inter-file references are being developed as updating of information proceeds. Developers are currently at a point where a master list for each category of data is being developed. These master lists will be used each year for updating information for a specific category. For example, one listing of all 400 jobs in munerical order will be used to update wages each year. Another list in order of descending DOT code will be used to monitor job selections, changes in entry requirements and so on. Procedurally, the revisions made, if any, would be noted in a column under the date of the update in a row across from the job. The source of the new information will be noted for each revision. After developers have updated the data, a copy of the list will be given to the data entry person to make revisions on the computer. Over a period of time, a historical time series will evolve and should be useful for related labor market analysis.

E. Selector Assignment Guidelines

Information development began documenting the criteria and rationale used to assign selectors to occupations in the system. (See Selector Guidelines, Appendix IID). The development of these guidelines was done from the position that the keying of selectors to jobs should, by design, minimize the impact of two major barriers a user faces when accessing the system--the problem of the mechanical selection process and relatively low number of jobs involved; and the unsophisticated nature of the majority of users. With these in mind, selectors are keyed to jobs so that a user will get the broadest possible exposure to occupations in the system. The four sets of guidelines attached describe the methods used to help insure that all possible selectors that could be assigned in each category will be assigned, thereby exposing each user to a greater variety of jobs.

Refinement of these guidelines and development of guidelines for other categories will be accomplished in the forthcoming year.

F. Printed Version of WOIS

The paper copy used with the manual search version of WOIS contains the following:

400 state occupational descriptions with cross references to the printed versions of the State Education and Training file, the Four Year College file, and the Career Resources file.

Also included in the printed version of WOIS is information on State financial aids and national information on scholarships, grant and other financial aids listed in Time Share Corporation's Scholarship file. Additionally the printed materials contain descriptions of graduate schools in the Great Lakes region along with lists of programs and characteristics of each institution.

G. SORT File Development

Information development activities during the project year included development of a compressed computer searchable version of the State Occupational file (SOCC). The SORT file was designed to enhance users' initial exploration of state occupations since the SORT descriptions can be reviewed in significantly less time than is required for SOCC. Users can be referred to the SOCC file for more comprehensive descriptions of jobs identified in SORT. (See Appendix IIE)

III. Delivery Systems

A. Delivery Modes for WOIS

The Wisconsin Occupational Information System staff have pursued and achieved the task of designing an integrated multimedia delivery system by employing the most current techniques understood as useful for occupational data dissemination. The delivery system employs the use of computers, a simple-to-use scan device and a paper copy mode. All three media are inter-related and employ a referral mechanism which transfers a user from one medium to another in an easily-understood fashion. This delivery system design was composed with audiences of all kinds in mind so that users whose budgets could not stand a "first-year" full-scale computerized implementation might opt for a less expensive delivery means until the computerized version could be installed.

The computerized system is comprised of six information files with cross-references between them that lead even the novice user directly to the information s/he desires. Two files are made up of occupational information, two contain educational information, a fifth contains financial aids information, and the last contains additional resources information [called "human resources" information]. The occupational information is collected and disseminated in the two occupational files on both a national and statewide scope. The national occupational file (NOCC) contains 1247 occupational descriptions and worker requirements for 1247 occupations along with a list of related job titles and where to go for further information. The state occupational file (SOCC) contains supplementary information to the national file on 400 jobs, including occupational outlook, current state employment, average salary, and education/training requirements. The four-year college file (COL4) of educational information on 1568 schools in the nation provides extensive listings of academic opportunities for students who wish to plan a college education. The remaining educational file provides similar information on 135 schools providing two years of training and is called the state education and training file (STET). The human resources file (HUMR) provides data for users who wish to explore further than can be done through the computer system alone and who will find here a list of organizations and associations they may contact. The last file offered during this year is the financial aids file (SAID) of answers to twenty most frequently asked questions on state aids and federal grants and scholarships. Three additional files are planned for delivery in the next year.

The scanning tool used for occupational information searching was developed after a model designed by the Michigan Occupational Information System and employs a scanning profile against which users may compare their occupational interests with profiles of the same 400 occupations found in the computerized state occupational file. Matching their profile with that of jobs, users may identify particular occupations which seem worthy of serious exploration. Both the scanning tool and the computerized version are designed to expand the user's awareness of the work world, and are not intended to specify occupations in which s/he should actually be employed. The final delivery mechanism is a paper copy of all information presented in the computerized version and bound into a two-volume set for ready reference and economical dissemination.

All materials designed for users are introduced by manuals and booklets providing extensive explanations at a "newspaper reading level". A WOIS Index lists the items available for searching in all the computerized files and a WOIS User Guide describes to the user how to access the files. A microfilm aperture card has been employed as an alternate delivery vehicle but has since been discontinued for lack of user interest. The paper copy volumes of information described above and the scanning tool are designed to replace the aperture cards and will become available after September 1, 1977.

Using the computerized version or the scanning tool provides users with an opportunity to conduct what is called a "structured search" of the data. Armed with facts relating to interests and other job attributes, a search is compiled which narrows the number of items (occupations or schools) to just those which possess the actual number of attributes selected. This means of delivery is superior to the usual methods employed for occupational decision making in that the enormity of options is readily handled. Furthermore, the computer allows the most easily-managed system for updating of information and hence assures the accuracy of information delivery. In contrast to the structured search method of access, users may obtain information on any occupation or school via a "direct search", meaning that a listing or printout is available on any one of the items in any file or delivery mechanism. The direct search means allows user ready access to information from any one of the three delivery modes; computer, scanning tool or paper copy.

Plans have been made and preliminary steps executed for providing an on-line "use evaluation" on some of the computers currently distributing the system. While not all WOIS Distribution Centers have this computer capability, those that do will assist the Delivery Systems staff in assessing use of the system and developing strategies for increased utilization. Presently, just one computer center maintains this on-line capability, and is located at the University of Wisconsin-River Falls campus. The other five computer centers, located in LaCrosse, Madison, Whitewater at their respective University of Wisconsin Academic Computing Centers, and the remaining two centers at the Cooperative Educational Service Agencies in Green Bay and Waukesha, all provide all-day computing services for WOIS users.

Mail response cards have been returned in large numbers with encouragement from a large-scale mailing to the state's high school senior population. Each card entitles the interested student to a complete listing of WOIS information on any occupation s/he chooses. This has also become a very useful means of "advertising" the system.

B. Usage of the System During the Second Year

In contrast to last year's Annual Report on the project, this year's usage report will be covered in the section where overall evaluation is discussed. The command structure of WOIS has been dramatically improved with changes made to the cross-reference fields as they are listed in the files. No presumption is made that any user has any prior experience with computers. Explicit typing instructions are given in the body of the cross-reference field so that no misunderstandings occur regarding how to use related information from other files. Initial informal evaluations made by User Services staff show that, while this information is used and provides easy movement from one file to another, a large number of users are conducting "direct access" searches. With little more substantial than speculation at this point, the Delivery Systems staff suspect that this kind of use reflects the more traditional uses of information rather than anything about the command structure. In short, most users of information want ready access to data which they regard as essential, namely, a printout of the occupations or the schools they are interested in. This probably is still a preferred method to learning the advanced modes of information search capabilities provided by information developers.

C. Proliferation of Distribution Centers

While WOIS has been capable of offering information from any one of six computer centers around the state, the need for even more computers has been understood and met. In the upcoming months, at least two additional computer centers are expected to become operational as WOIS Distribution Centers. They will be located in Superior and in Kenosha. Continued efforts to bring more computer centers to users are expected to continue. The final value in achieving this objective is a reduction of long distance telephone costs encountered when connecting a school or other user agency in a remote part of the state with a more centralized computer center. Reduction of these costs, referred to as "telecommunications", is expected to attract even greater numbers of users as costs are reduced. (See map of WOIS distribution centers in Appendix IIIA).

IV. User Services

During 1976-77, the User Services' staff were involved in many diverse activities. These will be discussed under four headings: Product, Price Delivery and Promotion-Marketing.

A. Product

In designing WOIS, User Services' staff view as critical their role in insuring the input of a user's point of view into those materials developed for use with the system. During 1975-76, User Services had provided input into the development of the Manual version of WOIS, including the format and content of the information and development of a searching scheme. User materials which support the computerized version of WOIS have also been developed by User Services' staff.

During the past year, a number of materials were available to WOIS users. These included the User Guide, the Index, the Instruction Manual, three Quickie Questionnaires, two posters detailing the components and the commands of WOIS, and various material to aid in using the system. A sample of these materials are included in Appendix IVA and IVB. As the past year was defined as a pilot operation year, these materials received intense infield scrutiny to determine their usefulness to WOIS users. As a result of this examination, plans were developed and implemented for creating additional material which seemed necessary and for modifying some of the 1976-77 materials which did not prove effective.

The plan for developing materials for the next year is contained in the table on the next page. This plan divides materials into Introductory Material, Alternative User Material, Purpose, Support Material and Equipment, and Post-use Material. Some of these are currently available in their final form and are included in this report. The remaining material will be developed by September for use during the 1977-78 year. Of particular interest is the booklet listed under Introductory Materials. Careful monitoring of use of WOIS indicated that the system is quite complex for the user to determine how it should be used to respond to their particular need. Thus, the introductory booklet will serve the purpose of channeling the user to those instructions necessary to answer his/her questions.

In summary, the opportunity provided during 1976-77 to carefully evaluate the pilot user material has resulted in a development of new material and refinement of old material based upon principles of facilitating use and insuring that the system is responsive to the individual needs of users.

WOIS USER MATERIALS (1977 - 78)

Introductory Materials	Alternative User Materials	Purpose	Support Materials & Equipment	Post-Use Materials
COMPUTER VERSION Booklet (Describing WOIS, providing a self assessment to the User and directions to appropriate materials [3-fold] reference to hardcover materials.) Filmstrip/Cassette (Material in booklet)	Quickie Questionnaire #1 Quickie Questionnaire #2 Quickie Questionnaire #3 User Guide (All selectors, basic directions, all files.) Quickie Questionnaire #4 (presenting specific to general I* approach: one occupation Quickie Questionnaire #5 (presenting specific to general I* approach: two or three occupations.)	Choice Choice Choice Choice/ Expand Expand Expand	Computer Terminal Paper Index Commands Poster (WOIS) Operations Poster (System-specific) Itemized lists of selectors (COL4, SOCC, STET, COL2, COL5) Instructional Filmstrip	1-Fold Holder (to c ry printouts, to pr vide appropriate cautions, to sugges other activities)
BOTH VERSIONS — Buttons Posters			Instructional Manual	Parent Guide
MANUAL VERSION Booklet (Describing WOIS, providing a self assessment to the User and directions to appropriate materials [3-fold].) Filmstrip/Cassette (Material in booklet)	Instructional booklet for needle-sort deck (manual selectors and first paragraph of SORT description) Needle-Sort Worksheets: large pad Instructional Booklet for Scan Sheets (manual selectors and first paragraph of SORT description) Scan Sheet Forms: small pads extra fee service Batch Processing Materials (Instructions, instrument and User Guide: Computer)	Choice Choice Expand Expand Expand/ Choice	Volume I: Occupational Description (Includes Index, Explanation of Content, Instruction on Referencing) Volume II: All other Information (Includes Index, Explanation of content) Itemized Lists of Selectors (COL4, SOCC, STET, COL2, COL5) Needle-Sort Deck Scan Sheets	

B. Price

Beginning in the first year and continuing into the first half of 1976-77, the WOIS Board of Directors wrestled with the difficult problem of pricing WOIS services and products. Numerous proposals outlining various pricing schemes were recommended by WOIS staff and considered by the various sub-committees. Finally, a formal pricing schedule was adopted during the October Board meeting. The minutes of this meeting contain the detailed proposal which was accepted: however, the essence of the pricing schedule is as follows. First, a User Fee will be based upon the number of "potential" users within a building. The fee per "potential" user is $0.45. However, for each user in the building over 1,000 the fee will be one-half $0.45. A "potential" user is defined as any individual who might have a need for the services or products of WOIS. Since state-wide support is received from several agencies and organizations, the user fee shall be waived for these organizations and institutions; however, this waiver of the user fee will result in a user receiving only the minimal amount of material, additional material must be purchased at "user cost". The schedule for pricing materials is determined by WOIS staff. Finally, WOIS staff has discretion in those cases where the user formula does not clearly indicate the appropriate fee for an institution or agency.

C. Inservice

The inservice plan developed during the latter part of the first year was put into operation during 1976-77. (See Appendix IVC) This plan proscribed both on-site and regional inservice meetings. The following regional meetings were held at various distribution centers and other locations at the convenience of user groups.

LaCrosse Distribution Center: Oct. 11, 1976 (Merrill), Oct. 14, 1976

Madison Distribution Center: Oct. 4, 1976 (Oregon), Oct. 22, 1976 (Madison)

Waukesha Distribution Center: Oct. 12, 1976, Oct. 13, 1976

Green Bay Distribution Center: Oct. 5, 1976, Oct. 6, 1976

Whitewater Distribution Center: Oct. 14, 1976

River Falls Distribution Center: Oct. 7, 1976

At least one on-site inservice training session was held for every user. The number of on-site contacts varied depending upon the needs of the user group. For example, Brookfield East received three sessions of on-site training, two sessions for guidance staff, one session for teachers; in contrast Oregon received on-site inservice only once.

Regional inservice meetings seem to be effective in training users in the fundamentals of using WOIS. However, it became apparent that on-site meetings were essential in assuring more extensive use of the system. Informal follow-up of both the regional and on-site meetings provided evidence that use increased quite markedly following on-site meetings for almost every user; however, following regional meetings, increase in use varied between users.

The results of this informal evaluation evidenced the need for simplifying the system (discussed in development of new products) and increasing the staff available to do on-site inservice training. The result of this latter determination was a development of a CETA proposal for which funding is hoped by the end of August, 1977. This proposal requests ten individuals to work out of regional locations across the state. One focus of their activity will be carrying on a program of on-site inservice training within their prescribed region. It is not anticipated that they will be responsible for conducting regional meetings which will be carried out by WOIS staff. Finally, WOIS has formally developed a Standards of Use document. (See Appendix IVD) This document will be distributed for the first time in September, 1977.

D. Promotion-Marketing

The list on the following page contains information on contacts, presentations and number of participants contacted by staff members in demonstrating and promoting WOIS. Potential users involved in these contacts and presentations have included: representatives of public and private schools and school districts; general audiences of counselors, teachers, vocational coordinators and administrators from public schools in most parts of Wisconsin; general audiences of teachers, counselors and administrators of vocational-technical schools; administrators and representatives on various Boards of Control representing vocational and technical schools and public universities and colleges, counselors in training from several counselor education programs in Wisconsin, professionals from several vocational development centers and vocational rehabilitation programs, and other possible user groups. The table in the next pages summarizes the marketing effort.

The marketing plan for WOIS is contained in the Appendix. (See Appendix IVE) This plan was the result of meetings with John Clyde and discussions among WOIS staff members. The plan is designed to achieve several objectives. First, potential WOIS users will understand the use of WOIS; second, marketing services to potential users will have continuity; third, potential WOIS users will be expos to WOIS and carefully followed up on their plans on adopting the system; fourth, inquiries of potential users to adopt WOIS services will be followed up quickly; and fifth, user fees for WOIS services will be explained in understandable terms to potential users. To aid potential users, a brochure was developed containing loose-leaf sheets of information to help in understanding WOIS. (See Appendix IVF)

As a result of implementing this plan and the work of the WOIS staff, over 100 different groups, institutions, and agencies used the computer version of WOIS during 1976-77. A list of user groups is contained in the WOIS Print-Out in the Appendix (see Appendix IVG) and will not be repeated here. However, the following table summarizes the number of user groups and the number of potential users represented by these user groups by various categories.

1976-77 Users of the Wisconsin Occupational Information System*

Type of User Group	Number of Groups	Average Number Potential Users	Total Number of Potential Users	% of State Total
Public High Schools	68	970	65,295	21%
Public J.H. Schools	1	400	400	1%
Colleges-Universities	1	420	420	1%
Vocational Rehabilitation	1	300	300	4%
CETA Groups	2	55	110	1%
Center Campuses	1	570	570	6%
Corrections	1	600	600	6%
VTAE	4	612	2,450	5%
GRAND TOTALS	79		70,145	

*These totals do not represent approximately 30 user groups which had WOIS on a trial basis.

The crucial test for WOIS will take place during the fall of 1977. At this time, the user fee will be implemented to all computer users. In addition, the Manual version of WOIS will be available for the first time at the cost of the user fee. Of course, for computer users those fees associated with receiving computer services-computer connect time, telecommunications, and terminal purchase or lease-will represent a much larger figure.

Letters have been prepared and sent to all WOIS users from last year and those expected to adopt the system in September of this year. These letters outline the user fee and specify the cost for the particular unit to which the letter is sent. The results of this mailing will not be expected until Sptember of 1977. Finally, it is anticipated that many users will adopt the Manual version of WOIS during the year. Various discussions have taken place regarding the advisability of pro-rating the user fee for those users groups beginning after September. It is planned that such pro-rating of the user fee will be brought to the Board during the September Board Meeting.

E. SUMMARY OF MARKETING EFFORTS (1976-77)

Type of Group or Institution	No. of Groups or Institutions Contacted*	Average No. per Meeting	Range of Group Size
- General Meetings or Workshops Attended	24	220	8-700
- General Meetings or Workshops (formal presentation)	18	40	6-67
- Public School Systems Contacted and Visited	174	8	1-40
- Private School Systems Contacted and Visited	2	3	1-5
- Universities or Colleges Contacted and Visited	33	10	1-20
- Vocational Technical Schools Contacted and Visited	27	5	1-23
- Vocational Rehabilitation Offices Contacted and Visited	12	9	1-25
- Correctional Institutions Contacted and Visited	14	6	1-20
- Cooperative Education Service Agencies Contacted and Visited	13	10	1-30
- Job Service Offices and Representatives Contacted and Visited	6	7	1-16
- CETA Agencies Contacted and Visited	6	8	1-16
- Others (Assoc., Org., Agencies, etc.) Contacted and Visited	29	7	1-15

* Numbers often represent more than one contact with a group or institution. Average contact with any single group or institution was approximately 1.5 with a range of 1-5.

V. Evaluation

A. Summary of Evaluation Activities

This past project year, evaluation resources have been primarily engaged in implementation of the impact evaluation design specified by the NOIS staff. Throughout the year, Wisconsin has continued to review and provide written comments on all NOIS documents concerning evaluation. These documents have included pre- and post-evaluation instruments, administration directions, notes on the design and procedural details, context evaluation forms, and proceedings of the NOIS impact evaluation conference.

The first step in implementing the impact evaluation design was to select six evaluation sites from among the high schools in the state. Three WOIS user sites (Green Bay East, Kimberly and Oregon High Schools) were selected to participate as "experimental" groups. Three other high schools (Port Washington, Waterloo, and Wauwatosa West) agreed to function as comparison groups which did not have access to the WOIS System.

More than 800 randomly selected seniors at the six evaluation sites completed the pre-survey (see Appendix VA) during the first half of November, 1976. Completed surveys were coded with identification numbers and forwarded to the Wisconsin Survey Research Lab (WSRL) for data processing and analysis during the latter part of November. A dump of all information in the WOIS occupational files was made in December to the WSRL. This information was necessary for the perception coding of Part II of the pre- and post-surveys.

Prior to preparation for the post-survey, pre-survey procedures and problems were reviewed. These problems included: 1) recruiting non-user sites to enthusiastically participate in the evaluation, 2) administration instructions which overemphasized voluntary participation, 3) Many students' inability in identifying a particular codeable occupation in which they are interested, and 4) maintenance and accuracy of user sign up sheets. A report on pre-survey procedures and problems was presented by the project's part-time evaluation specialist at the NOIS impact evaluation conference in Washington, D.C., in March, 1977. Wisconsin's ideas for a context evaluation of the various impact evaluation sites were also presented and adopted at this conference.

For the post-survey (see Appendix VB), nine questions developed specifically for WOIS were integrated with the common core questions required by NOIS. These additional questions solicited information on how users first became aware of the presence of WOIS in their school, how they learned to use the WOIS terminal, and some of the more immediate effects of their experience with WOIS.

The post-survey was administered to seniors at five evaluation sites during the first half of May, 1977. The sixth school, one of the control sites, did not fully participate in the post-survey for reasons beyond control of the WOIS staff. Grade point averages for participating seniors were obtained from school records at the time of the post-survey administration. Completed post-surveys were edited and forwarded to the WSRL for coding and analysis at the end of May, as the NOIS evaluation schedule specified. It is anticipated that results will be available in fall, 1977.

School data sheets, providing descriptive background information on each evaluation site's career education involvement and occupation information available to students, were completed and sent to NOIS in June. This information will be helpful in interpreting results and in writing a final report of the impact evaluation during the next project year.

The project's part-time evaluation specialist has maintained communication with the WSRL as the evaluation has progressed. Subjects such as coding problems among the various states and cross-tabulations of survey items have been discussed on various occasions.

An evaluation survey of local WOIS coordinators at the 76 high school user sites was also conducted in May. Content of the questionnaire (see Appendix VC) represented the concerns of and information needed by the WOIS staff in order to continue to improve the system and accompanying services. Some of the data will be used to meet NOIS process evaluation requirements. Sixty-four (64%) of the coordinators responded to the survey. Results were tabulated and interpreted and are discussed in the attached report. Survey findings will be studied in conjunction with other types and sources of information such as computer logs and records of project communications throughout the coming year.

In summary, Wisconsin's evaluation activities to date have provided interesting data and valuable experiences. The data and information these activities have yielded are and will continue to be used to improve WOIS. These experiences have also had important implications concerning the nature of future evaluations.

B. Report on User Status During the First Operational Year

INTRODUCTION

The Wisconsin Occupational Information System will soon be entering its second year of operation at many sites around the state. In order to effectively guide the progress of WOIS and improve system services to users, periodic evaluations of the project are imperative. WOIS is in the midst of the implementation stage of its development, so an emphasis upon evaluating processes is not only appropriate, but necessary to provide project staff with information on how and to what extent planned strategies and procedures have been and are being implemented.

This evaluation report represents the project's first systematic effort at compiling system utilization data for WOIS. At the time this study was conducted, the project files listed 82 user sites. Seventy-six (93%) of these sites were high schools, one was a middle school, one was a district office of the Division of Vocational Rehabilitation, and four sites were vocational-technical institutes. This first study focused on the 76 high school user sites which had a combined 9-12 enrollment of approximately 71,000, 25% of the 312,000 students enrolled at 433 public high schools in Wisconsin during the 1976-77 school year.

The first systematic evaluation has been a profitable one not only because of the value the results have for the project's user services staff and other groups and individuals who are interested and involved in WOIS, but also because it allowed the staff to field test some evaluation strategies which will be refined for periodic implementation in future years.

METHODOLOGY

Instrumentation

A survey of all high school user site coordinators was selected as the most appropriate method of obtaining data for an initial picture of the status of WOIS in Wisconsin high schools. Questions for the survey (see appendix V-C) were developed by the WOIS staff and deal with their concerns and information they need in order to improve the system and accompanying services. Contents of the questionnaire cover subjects such as hardware for delivery, local accessibility of the system, various details regarding usage by students, and general concerns of the coordinators. This information also satisfies many of the process evaluation criteria specified NOIS. Process evaluation information for other criteria have been obtained in the NOIS impact survey of students which has been completed and for which results are forthcoming (late fall, 1977 as of the writing of this).

Four questions on each school's media equipment were included on the questionnaire. This information will help the Center in preparing instructional materials for WOIS, but it has not been discussed in this report.

Procedure

The WOIS coordinators at the 76 high schools on the user site roster, as of April, 1977, were involved in the survey. The questionnaire, a cover letter, and a postpaid envelope were mailed to each coordinator on May 19, 1977. A follow-up letter and second copy of the questionnaire were sent to all non-respondents on June 6, 1977.

Results were hand tabulated at the Center due to the relatively small number of respondents involved and the open-ended nature of a number of the questions. Data obtained from system-use logs maintained by the computer at the University of Wisconsin-River Falls distribution center were used to corroborate some of the responses of the coordinators and provide a more precise picture of systems use.

RESULTS & DISCUSSION

The WOIS coordinators were generally very cooperative and provided many helpful comments on the status of WOIS at their respective high schools. Sixty-four (84%) of the coordinators completed and returned questionnaires. This high response rate and the straightforward comments of coordinators indicate that many high schools around the state share an interest in the Wisconsin Occupational Information System and its future as a significant occupational information resource.

Coordinators differed in their degree of involvement with WOIS during the first operational year due to a number of variables such as work load, location of the computer terminal, and personal interest in the program. Consequently, the reliability of their judgements and observations on some particular questions is a legitimate concern which arises. Fortunately, coordinators exercised discretion by leaving these questions blank or by writing qualifying/explanatory remarks whenever they felt unable to provide accurate responses. The carefully compiled results reported here are consistent with observations made by the user services staff and other information obtained during the course of the year.

Terminals Used for WOIS

Most schools had computer terminals prior to the introduction of WOIS. The kinds of terminals being used to access WOIS are noted in Table 1. Conventional teletypes of various kinds (e.g., Bell System; GET Model 33; ASR 33) are used by at least half of the user sites. The higher speed Decwriter is the second most frequently used type of terminal. The Texas Instruments - Silent 700, used at two sites, is a quieter, lighter-weight terminal which uses a thermal printing process rather than impact printing process.

Table 1

Kinds of Terminals Used for WOIS

Number of User Sites	%	Equipment
32	50	Teletypes
12	19	Decwriter
2	3	Texas Instruments-Silent 700
18	28	Unknown (No Response)
64	100	Total

Most of the hardware being used has been ~~quite~~ reliable. Fifty (78%) of the user sites did not experience any recurring problems with the terminal they used. Three of the fourteen schools which responded positively to the question concerning recurring terminal problems described scheduling rather than equipment problems. Most problems were with teletype rather than Decwriter terminals. Comments from the schools which noted equipment problems were as follows:

Typos (especially backslashes)-garbled transmission from time to time

Problems with set up and time for use-but not with WOIS

Machine goes down periodically

Breakdown

Over use on our terminal which it cannot handle--therefore, it is often down for repairs.

It's down too often.

Some minor problem with getting on line to start.

Corrected presently by the Wisconsin Telephone Company--has been good lately.

Terminal Locations

Terminal locations during the 1976-77 school year are reported in Table 2. It would seem most desirable to locate a terminal to be used for WOIS in or near the school guidance area so that counselors would be readily available to teach and interact with students using the system. However, the terminal was located in the guidance office at only six schools. Three additional schools had special rooms reserved for use of the terminal.

At almost half (46%) of the user sites, the terminal is located in the math department or computer science area. Many students might perceive of a terminal in the math or computer sciences department as being inaccessible for career guidance purposes. The school library or IMC is also a fairly popular location, with eight schools housing their terminals there. At seven schools, the terminal was moved around to various locations (e.g., the math and science departments, guidance office, and audio visual equipment area) during each day or week.

Table 2

Locations of Terminals at WOIS User Sites

Number of User Sites	%	Location
24	38	Math Department
8	13	IMC - Library
6	9	Guidance Office
5	8	Computer Science Room
1	1	Cent[illegible] Office
2	3	Business Education Department
1	1	Science Department
3	5	Special Room
7	11	Moves around-Multiple Sites
7	11	No Response
64	100	Total

Terminal Use Other Than WOIS

Most schools used the computer terminal for one or more other purposes, most predominantly (70%) for instructions in math, science, reading and other academic areas. Approximately one third of the sites use the terminal (presumably quite heavily) for instruction in computer science. Only two schools reported using their terminal solely for WOIS. The various uses and the number of schools using the terminal for each particular purpose are presented in Table 3.

Table 3

Other Uses of Terminals

Number of User Sites	%	Purpose
45	70	Instruction in math, science, etc.
21	33	Instruction in computer science
7	11	Special projects and games
2	3	Grading
1	1	Guidance (other than WOIS)
1	1	Attendance
1	1	Administration

Local Availability of WOIS to Students

Availability of WOIS, from the stand point of time, was a problem at many user sites during the past year. Due to the expense of terminal rental or purchase and other necessary computer services, most user sites have one terminal which is used for several different purposes, and WOIS often assumes a low priority among these. Table 4 presents the coordinators' reports of the number of hours per week the terminal was available for accessing WOIS. While 41 coordinators did respond to the question of availability with a specific number of hours, it is important to note that these figures do not necessarily represent the number of hours the terminal was available, on a regular schedule, exclusively for accessing WOIS. In many cases the number provided was the number of school hours when the terminal was not scheduled for higher priority purposes such as math and computer science instruction, and times varied, making it difficult for students to know precisely when and where the terminal could be used for WOIS.

Table 4

Availability of WOIS to Students

Number of User Sites	%	Hours per Week Available
7	11	0
4	6	1-4
18	28	5-10
7	11	11-20
5	8	21-40
23	36	No Response
64	100	Total

Among schools which provided a figure for the number of hours, the mean was 10.4 hours. Across all user sites this mean would most likely be lower. At least four coordinators did not respond because WOIS could only be directly accessed by counselors. Other coordinators provided written comments concerning availability. At six schools, WOIS was available on an advance sign-up basis. The terminals at two schools were available for several purposes on a first come-first served basis, and two coordinators said their terminals were available for WOIS only after other priorities had been met. Two schools made WOIS available whenever the terminals were not being used for math and computer science classes ("which is almost never").

Referral Agents

Students who use WOIS have most often been referred to the systems by a school counselor. The user site mean is 65% referral by a counselor. At eight high schools, all users (100%) were reportedly referred by a counselor. At 22 additional sites, 75-99% of the student users were referred by a counselor. Only five coordinators estimated that less than 25% of the student users in their schools were referred by counselors.

Much less significant, but second in rank, as a referral agent are teachers. The user site mean is 16% and percentages range from 75% (two schools) down to 0% (20 schools). The teachers at most user sites are probably largely unaware of the existence of WOIS at this point in time, so the rather low level of referral by teachers is not surprising.

Other students are the third ranked referral agent, with a user site mean of 10%. Considering the small amount of usage of WOIS at most sites during the past year, this figure might be expected to be rather low. As the system becomes better established at the schools and more students have successful experiences with WOIS, the proportion of student users initially referred by other students could be expected to rise.

- Self referral after hearing a school announcement on WOIS, reading a school newspaper on WOIS, etc. is rather uncommon. The user site mean for self referral is 8%, with most schools falling in the 0-10% range. Six sites reported self-referrals in the 25-50% range.

Parents have been negligible as a referral agent, most likely because they are completely unaware of the system. Virtually none of the students in most schools were encouraged to use WOIS by their parents. Only seven schools reported some parent referral and the level ranged from 1-5%.

Learning to Use WOIS

Coordinators estimated that the largest percentage of student users learned how to access the information in WOIS through individual assistance from a counselor or other person experienced with the system. Individual assistance was the virtually exclusive (95-100%) method of learning to use WOIS at 9 user sites. Thirty-seven school coordinators estimated individual assistance as the most popular method of learning. Only 6 schools reported that no students learned to use WOIS through individual assistance.

Somewhat less popular was group instruction on WOIS. Twenty-four coordinators rated it as the most often used method of learning. Six of these schools reported that students learned virtually exclusively (95-100%) by way of group instruction.

Only four coordinators estimated that a plurality of WOIS users had been left on their own to learn from the user guide, quickie questionnaires, or other materials. Noteworthy is the finding that at twenty-six sites virtually none of the WOIS users had been forced to learn to use the system completely on their own.

The coordinators did not identify any other popularly used method of learning to use WOIS at their schools. The eight coordinators who did report some percentage of students (usually quite small) learning in other ways explained with comments such as the following:

At the university computing center (10%)

Students watching others (15%)

In computer science class (40%)

Counselor aid with students to assist at all times (100%)

All of these methods appear to be variations of either group instruction and/or individual assistance.

At most sites, according to the observations of the coordinators, students have not encountered significant difficulties in learning to use WOIS. Five coordinators did report that students were experiencing some difficulties. Three of these coordinators attributed student problems to the lack of counselor time to provide instruction and assistance.

Student Use of WOIS

At the time of data collection, there were 76 high schools identified as WOIS user sites. This number represented 18% of the 433 public high schools in Wisconsin. Use of WOIS was minimal at many user sites during the first operational year and must be viewed in the context of other information in this report, especially that on the accessibility of computer terminals to the students. Coordinators' estimates of student use of WOIS at each grade level for their particular schools are presented in Table 5.

Table 5

Coordinators' Estimates of Student Use in Grades 9-12

% of Enrolled Students Using WOIS	Grade 9	10	11	12
0%	17	17	7	6
1-5%	7	12	12	13
6-10%	5	11	10	10
11-15%	2	4	4	1
16-25%	4	6	10	10
26-50%	4	7	12	13
51-75%	0	0	1	2
76-90%	0	0	1	1
91-100%	1	1	2	3
Grade not included in school	20	2	1	1
Totals	60	60	60	60

Two coordinators did not provide estimates and two additonal coordinators reported that nothing had been done with WOIS during the 1976-77 school year but plans were being made to initiate programs during the 1977-78 school year. According to the estimates, there was a tendency among user sites toward greater use by juniors and seniors than by freshmen and sophomores.

Coordinators' percentage estimates were converted to numbers of student users by using enrollment figures for the 1976-77 school year. This permitted the calculation of an overall estimate of student use for each grade level and the total 9-12 enrollment. These results are presented in Table 6.

Table 6

Overall Estimates of Student Use by Grade Level For 60 Responding Schools

	9	10	11	12	Total
Enrollment	8982	16,794	16,865	15,980	58,621
Estimated Users	905	1,800	3,539	2,994	9,238
% Users	10.0%	10.7%	21.0%	18.7%	15.8%

Although these estimates may be somewhat inflated, they also reveal a pattern of greater usage among juniors and seniors than by freshmen and sophomores.

Table 7 presents user estimates as percentages of enrollments at all 76 user sites, including the 12 non-responding sites and 4 responding sites which did not provide estimates:

Table 7

Estimates of Student Use by Grade Level Viewed in the Context of Enrollment at All 76 User Sites

	9	10	11	12	Total
Enrollment	12,772	19,895	19,984	18,728	71,379
Estimated Users	905	1,800	3,539	2,994	9,238
% Users	7.1%	9.0%	17.7%	16.0%	12.9%

Another index of use was obtained in a preliminary tabulation of the National Occupational Information Service impact evaluation survey conducted during the past year. This tabulation of responses made in early May revealed that 50 seniors (12.4%) of 403 seniors surveyed at three user sites used WOIS during the first operational year.

More precise data on use were obtained for ten user sites (with a combined 9-12 enrollment of approximately 4700) which completed the survey. These data, obtained from computer logs maintained at the WOIS distributions center at University of Wisconsin-River Falls, are presented in Table 8.

Table 8

Computer Logged Use at Ten High Schools

During the Period from 12-11-76 to 5-23-77

	File						
	NOCC	SOCC	COL4	STET	SAID	HUMR	TOTAL
Number of Accesses	269	128	101	70	4	15	587
Minutes Accessed	2,977	856	1,129	376	19	28	5,385
Minutes per Access	11.07	6.69	11.18	5.37	4.75	1.87	

NOCC (National Occupational File)	SOCC (State Occupational File)
COL4 (4 Year College File)	STET (State Education and Training File)
SAID (State Financial Aid File)	HUMR (Human Resource File)

It should be pointed out that numbers of accesses reported in Table 8 are not necessarily equivalent to numbers of students who have used WOIS. Some student users may have accessed a file more than once, and any one student may have used one, several, or all six files. Some WOIS use by counselors may also be reflected in the computer log data.

Whether ranked by number of accesses or minutes accessed, the National Occupational File (NOCC) has clearly been the most heavily accessed WOIS file at schools using the U.W.-River Falls distribution center. The mean file rankings of all coordinators confirmed this finding for the state as a whole. If files are ranked according to computer logged data on number of accesses, the State Occupational File (SOCC) is second most often used. The mean rankings of the coordinators from the ten sites represented in the log data supported this. However, the mean rankings of all coordinators indicate that the four year college file (COL4) may be used slightly more frequently than SOCC. If the files are ranked according to minutes accessed by the ten schools represented in the computer logs, COL4 receives greater use. Perhaps because COL4 is a larger file, the average length of each access is more than four minutes longer than the average length of a SOCC access. The average lengths of accesses in the NOCC and COL4 files are comparable at somewhat over 11 minutes. Coordinators' mean rankings of the remaining three files indicate that they can be ordered according to use as follows: 4-State Education and Training File, 5-State Financial Aids File, and 6-Human Resource File.

When studying figures on use of WOIS, the question of whether students are directly accessing the files (asking for information on specific occupations or schools), conducting structured searches (entering a list of personal characteristics, work environment preferences, and/or school characteristics to obtain a list of occupations or schools that match entries), or using both procedures comes to mind. According to coordinators' estimates, at least one third (32%) of student users were simply asking for information on specific occupations and/or schools. Slightly fewer (at least 28%) have only conducted structured searches of the files. Approximately 18% of the users probably used both procedures to access information in the file. So, nearly 50% of users, and quite possibly many more, are conducting structured searchs of the WOIS files. These estimates should be considered very tentative however. Nineteen coordinators felt unable to judge how the system was used by at least a portion of their students, and nine coordinators could not make any judgements on the nature of use. These large unknowns could alter the picture on modes of access considerably.

Student Reaction

Coordinators' judgements of student reaction to WOIS are noted in Table 9. Student reaction appears to be very positive; three quarters of the coordinators described student reaction as "favorable" or "very favorable." Placing the responses on a 1 (very unfavorable) to 5 (very favorable) scale, the coordinators' mean rating of student reaction is 4.14 - better than favorable. None of the coordinators described student reaction as negative.

Table 9

Student Reaction to WOIS

Number of User Sites	%	Reaction
17	27	Very favorable
32	50	Favorable
9	14	Neutral
0	0	Unfavorable
0	0	Very Unfavorable
6	9	No Response
64	100	Total

Future Needs of Users

Thirty-three coordinators wrote responses to the open-ended question concerning their anticipated needs for assistance from the WOIS user services staff. The most frequently anticipated need was for teacher and counselor training/in-service programs. This need was expressed by the coordinators from at least 13 user sites. Continued update and communication regarding changes in WOIS were referred to by eight coordinators as anticipated needs.

The following is a complete list of anticipated needs, as expressed by the coordinators.

New information

Response to some cards. On site visitation once each semester.

General review of the new materials and program. Perhaps instruction on the new terminal we will have in the Guidance Office next year.

Visitation with coordinator
Updated materials
Services similar to this year.

Possible brief in-service to make faculty and staff aware of its potential

Training for myself and student assistants

In-service education for other staff

One major area would be to correct errors found in cross reference from one file to another. I reported those I found to CESA 9, our Computer Center.

Workshops

In-service training for select group of students

Explanation of any new programs and for procedures

Structured search could be improved. Too time consuming.

In-service in LaCrosse for a group of students to give them a better and overall look at the whole system.

Instruction for students in computer science and teacher--also counselors

Keep us informed of new processes and new data

Instructions on new features or changes in program

Send a user services representative to in-service our staff

Very little

Not sure

Help needed to train new counselors in WOIS use

New guidance man must be trained

Very little

One problem solving type of In-service Program

I don't know now.

Being kept informed of all changes, etc., on additions

Communications--general suggestions

Provided the programs are not goofed up as STET was--none

Continued inservice; suggestion on how to use and increase participation

Continued updates as to program changes

None known

None

Not sure

We have an in-service meeting for our counselors already scheduled.

General Comments

Thirty-two coordinators made general comments and observations regarding WOIS. Ten coordinators were very complementary and described the system with words such as "excellent," and "most useful." The fee structure and local school's cost for WOIS was a significant concern of five coordinators. All general comments are reported below.

I'm glad I learned how to use it; our students are enthusiastic in using it.

We hope to expand the use by students and to make it readily available to all of our students.

I feel the WOIS program is an excellent addition to our counseling program.

We like the service a lot!

Terminal is used by Math Class, not enough terminals for WOIS

The cost factor in a tight budget is high. Couldn't we be charged on actual use rather than by potential users?

Students have no difficulty with this program--excellent.

Haven't really had the time to implement the program.

Have used it very little, inconvenience of location of machine

We do not have a WOIS coordinator. Thus little use is really made of the system.

It is slow and very time consuming.

We find the system most useful.

Wish we could have it in the Guidance Office.

I filled this form out earlier and when I learned how user fees were going to be assessed next year - I threw it away. I do not feel it is fair to charge according to school enrollment. It is an excellent program!

Pleased with the service

Would like to see old COL2 file retained. I have had many requests for it.

User services manager has been very helpful. We value the system and hope costs do not become prohibitive.

Excellent program--continue to expand SOCC file and HUMR file. Also continue to expand cross-referencing capabilities.

Instead of pre-dental, pre-law, pre-medicine--dental, law, medical degree programs and where to get them would be helpful

WOIS has been extremely helpful.

I hope that the NOCC and SOCC files are going to be expanded.

We did not have time until 4th quarter to start use of the system--ok now!

Because of the inaccessability of the computer terminal in our school, we find it necessary to discontinue WOIS.

As a counselor I would like a lot more time!

Will not have, too costly.

We plan on continuing one more year, but it is beginning to look like it will be too expensive to justify its very limited use. Even next year, I'm not certain that the money will be there.

WOIS has been excellent so far. I hope to teach a four week seminar to all freshmen next year.

Generally, we do not have much success trying to do a structured search in the occupational file. The quickie questionnaires aren't too helpful.

So far, it has not been practical time wise for counselors to travel to location of computer terminal.

We are not subscribing to WOIS next year. Budget problems.

It would be interesting to learn how other schools use it.

We have only a ½ time port at this time. Because of the other student demands for the computer and because of a heavy counselor/pupil ratio, we just do not have enough time to use the computer for guidance.

VI. WOIS Financial Information Report

Fiscal Year Ending June 30, 1977

Budget Items	Expenditures and Source of Funds						State and Federal Totals Expenditures To Date	Encumbered To Date	
	Federal H905*	J113	H904	J345	J434**	State Total		H905	J434
Salaries and Wages									
Managerial & Professional	95,968.90	1,709.68	3,897.87	14,485.00	11,933.47	32,026.02	127,994.92		
Clerical	23,691.83	1,053.85	---	1,641.63	6,170.07	8,865.55	32,557.38		
Total	119,660.73	2,763.53	3,897.87	16,126.63	18,103.54	40,891.57	160,552.30		
Fringe Benefits	24,207.74	515.76	795.17	3,383.24	3,303.94	7,998.11	32,205.85		
Total Personnel Expense	143,868.47	3,279.29	4,693.04	19,509.87	21,407.48	48,889.68	192,758.15		
Direct Costs									
Travel Expense	11,971.74	---	---	---	1,952.80	1,952.80	13,924.54	15.00	---
Equipment	0.00	---	10,675.89	---	1,786.00	12,461.89	12,461.89	---	1,775.00
Supplies	8,141.15	---	1,661.11	---	---	1,661.11	9,802.26	2,099.82	---
Other-Supplies-Services	73,838.30	---	287.39	---	7,142.00	7,429.39	81,267.69	17,897.43	420.00
Computer Processing Costs	19,384.44	---	---	---	---	---	19,384.44	---	
Total Direct Costs	113,335.63	---	12,624.39	---	10,880.80	23,505.19	136,840.82	20,012.25	2,195.00
Indirect Costs									
Overhead									
Total Indirect Costs	20,338.22	262.33	1,369.84	1,560.75	2,583.01	5,775.93	26,114.15	1,600.98	175.60
T O T A L	277,542.32	3,541.62	18,687.27	21,070.62	34,871.29	78,170.80	355,713.12	21,613.23	2,370.60

*Total H905 Expenditures + Encumbrances for 1976-77 Fiscal Year $299,155.55
**Total J434 Expenditures + Encumbrances for 1976-77 Fiscal Year $39,436.97

Total Expenditures and Encumbrances Fiscal 1977: $381,892.03

WOIS QUARTERLY FINANCIAL INFORMATION REPORT

Quarter Ending June 30, 1977

Budget Items	Previous Balance	Expenditures This Quarter and Source of Funds			Expenditures To Date	Encumbered To Date
		Federal H-905	State H-904, J434 J-113, J345 Other	Total		
Salaries and Wages						
Managerial & Professional	98,029.66	19,441.09	10,524.17	29,965.26	127,994.92	---
Clerical	24,281.74	6,428.49	1,847.15	8,275.64	32,557.38	---
Total	122,311.40	25,869.58	12,371.32	38,240.90	160,552.30	---
Fringe Benefits	24,834.10	5,023.57	2,348.18	7,371.75	32,205.85	---
Total Personnel Expense	147,145.50	30,893.15	14,719.50	45,612.65	192,758.15	
Direct Costs						
Travel Expense	8,570.36	3,401.38	1,952.80	5,354.18	13,924.54	15.00
Equipment	10,675.89	---	1,786.00	1,786.00	12,461.89	1,775.00
Supplies	8,899.42	903.80	(.96)	902.84	9,802.26	2,099.82
Other-Supplies-Services	51,648.48	22,757.21	6,862.00	29,619.21	81,267.69	18,317.43
Computer Processing Costs	18,000.00	1,384.44	---	1,384.44	19,384.44	---
Total Direct Costs	97,794.15	28,446.83	10,599.84	39,046.67	136,840.82	22,207.25
Indirect Costs						
Overhead	18,138.23	5,950.40	2,025.52	7,975.92	26,114.15	1,776.58
Total Indirect Costs						
TOTAL	263,077.88	65,290.38	27,344.86	92,635.24	355,713.12	23,983.83

OMB Approval No. 29-R0224

FINANCIAL STATUS REPORT

1. Federal Agency and Organizational Element: Department of Labor - NOIS

2. Federal Grant No. or Other Identifying No.: T30A-76-100

3. Name and Address of Grantee Organization:
Governor's Manpower Office
Sub-Grantee: University of Wis./Madison
Wis. Vocational Studies Center

4. Employer Identification No.:

5. Grantee Account No. or Identifying No.: 8905

6. Final Report: ☐ Yes ☒ No

7. Basis of Report: ☐ Cash ☒ Accrued Expenditures

8. Project Period (Month, Day, Year): FROM 7 | 14 | 77 TO 7 | 13 | 78

9. Report Period (Month, Day, Year): FROM 4 | 1 | 77 TO 6 | 30 | 77

10. STATUS OF FUNDS

	PROGRAMS — FUNCTIONS — ACTIVITIES						
	(1) Info. Dev.	(2) User Serv.	(3) Gen. Mgmt.	(4) Eval. 9.6	(5) WI Cort.	(6) Delivery	TOTAL
a. Total outlays previously reported	81,291.07	96,023.43	20,520.07	25,255.48	10,786.19	29,201.64	*263,077.88
b. Total program outlays this period	28,624.29	33,811.86	7,225.55	8,892.98	3,798.05	10,282.51	92,635.24
c. Less: Program income credits	---	---	---	---	---	---	---
d. Net program outlays this period	28,624.29	33,811.86	7,225.55	8,892.98	3,798.05	10,282.51	92,635.24
e. Total program outlays to date	109,915.36	129,835.29	27,745.62	34,148.46	14,584.24	39,484.15	355,713.12
f. Less: Non-Federal share of program outlays	24,154.78	28,532.34	6,097.32	7,504.40	3,205.00	8,676.96	78,170.80
g. Total Federal share of program outlays	85,760.58	101,302.95	21,648.30	26,644.06	11,379.24	30,807.79	277,542.32
h. Total unpaid obligations	7,411.00	8,754.10	1,870.74	2,302.45	983.34	2,662.20	23,983.83
i. Less: Non-Federal share of unpaid obligations	732.51	865.27	184.91	227.58	97.19	263.14	2,370.60
j. Federal share of unpaid obligations	6,678.49	7,888.83	1,685.83	2,074.87	886.15	2,399.06	21,613.23
k. Total Federal share of outlays and unpaid obligations	92,439.07	109,191.77	23,334.13	28,718.93	12,265.38	33,206.27	299,155.55
l. Total Federal funds authorized	92,545.19	109,317.13	23,360.92	28,751.91	12,279.46	33,244.39	299,499.00
m. Unobligated balance of Federal funds	106.12	125.36	26.79	32.98	14.08	38.12	343.45

11. Indirect Expense a. Type of rate (Mark one): ☐ Provisional ☐ Final ☒ Predetermined ☐ Fixed

b. Rate: 8%

c. Base: 256,983.62

d. Total amount: 20,338:22

e. Federal share: 20,338.22

12. REMARKS (Attach additional sheets if necessary)

13. CERTIFICATION — I certify that to the best of my knowledge and belief this report is correct and complete and that all outlays and unpaid obligations are for the purposes set forth in the grant award documents.

Name / Title: Roger Lambert, Dir.WOIS

TELEPHONE: Area Code 608 | Number 263 | Ext. 2704

Signature of Authorized Official:

Date Report is Submitted: 8/24/77

Financial Status Report

*Corrected amount total outlays previously reported.

VII. Future Direction

The third year's scope of work which has been approved by the WOIS board of Directors is presented below:

A. Information Development

During the third contract year the Information Development action will emphasize file enhancement and file maintenance. Work will continue on development of a condensed version of the state occupational file.

Evaluation of information library will continue to be expanded to allow analysis of newspaper want ads that will be used to identify trends in regional employment.

During the third contract year, a re-evaluation of the WOIS occupational description format will be completed. Also to be reassessed are the files formats for the Education and Training file, the State Human Resources file and Financial Aids file.

The ease of use of the total integrated WOIS system will be evaluated from an information development perspective. Cross-referencing and multi-media integration will be assessed.

An activity log will be maintained that will report the status of all on-going information development activities.

During the third year contract year, the planning for the fourth year's activities will be completed.

B. Information Delivery

The activities of Information Delivery include coordinating the implementation and adoption of the delivery system, assisting in the analysis of occupational information, providing technical assistance in handling problems arising in the delivery of information, coordinating modification of the delivery system, assisting in the evaluation process, directing all activities in the management of data processing, recruiting new users and providing users with in-service training, and insuring that the work of Regional WOIS Specialists is carried out successfully.

C. User Services

The manager of user services will supervise several functional areas:

marketing, inservice training, supportive activities, information delivery, and evaluation, and will assist the director in planning the program for financial support. The supervision will involve planning meeting for WOIS staff, coordinating the activities of user service, evaluation, and delivery specialist staff, planning, developing, and writing materials for WOIS use and for WOIS marketing purposes and monitoring all budgeting and record keeping functions associated with the used service component.

Marketing efforts during the coming year will be targeted to a wide variety of audiences including large suburban school systems, vocational, technical and adult education institutions, UW campuses, CETA agencies, DVR offices, and Job Service offices. The anticipation of additional staff through CETA funding should allow the WOIS marketing efforts in the coming year to approach saturation of potential users.

An inservice training program similar to that of the previous year will be carried out with all current and new users of WOIS. This program will include the addition of inservice training for use of the manual version which will be available in September. Further, CETA employees will be available to perform various acrivities with local users which should support and enhance the use of WOIS.

Support activities of the user services staff will be numerous and, besides those mentioned in the scope of work, will include the development of additional activities as needs of users dictate.

Efforts will be made to insure that the evaluation of WOIS becomes integral to the WOIS service and, in fact, produces data which will be concentrated, working with the delivery system specialist, to insure that all products of WOIS work effectively together as well as being useful on a stand alone basis.

Development of the program for financial support will involve contact with numerous groups and agencies at the state level to insure that, whenever possible, funding is obtained in the most expeditious and efficient manner.

D. Evaluation

The activities of the evaluation component of WOIS are designed to assess the processess and impacts of the system, and in turn, provide useful information form which decisionmakers can operate and improve the system. These activities include reviewing existing evaluation and data collection procedures, and implementing the modification. Particualar attention is focused on data requirements, evaluation instruments, and the feasibility of developing a systematic and timely on-line computer evaluation of WOIS.

APPENDIX IA

CN 35 8/76

WISCONSIN OCCUPATIONAL INFORMATION SYSTEM

Minutes of Board of Directors Meeting

August 17, 1976

Wisconsin Center - Room 109

Board Members Present: Dick Johnston, Doyle Byle for Lorran Celley, Jim Jackson, Andy Cohn, John Nierengarten for John Storlie, Al Thurner, Donald Jacobson, Robert Van Raalte, Donald MacTaggert, Roger Lowney, August Ciburich for Stan Spencer

WOIS Staff Present: Roger Lambert, Shelley Cary, David Miller, David Caulum, Darcy Mellen-Sullivan, Linda Rees

Guests Present: Lyle Hunter, Carl Roehrdanz, Al Roberts

1. The meeting was called to order at 10:00 a.m.

2. Roll call was taken.

3. Roger Lambert noted that Andy Cohn's name should replace that of Kathy McElroy on the list of Board of Directors.

4. The two new WOIS staff members were introduced. They are Shelley Cary, who is the Deputy Director, and Darcy Mellen-Sullivan, User Services Specialist. It was also mentioned that two WOIS positions will be filled in the near future; that of Bob DeMuth and Wendy Glisch.

5. David Caulum reported on the user services activities. The User Services staff have been involved in getting the manual and guide to the printers. The staff has also been involved in contributing the information development to complete the information entry into the system. The system should be up and going by September 15. Initial in-service efforts will be at the Distribution Centers with a meeting for all using the system on a general basis. This is tentatively planned for October 1.

6. David Miller reported that the staff at DILHR is editing the National File. They are working with Time Share's 1,196 occupations and are identifying ways to cross reference this file with the other existing state files. He also explained that the State Occupational File is 90% completed with 223 occupations having been entered into the computer. These occupations are now ready for computer retrieval. In addition to this, the Financial Aids File is now running; however, there is some editing which needs to be done. The Education and Training File is also up and running although it is not complete. Information for the Human Resource File has been completed and is now being entered into the computer at the rate of approximately 35 per day. There are about 600 entries to make.

7. Roger Lambert reported on State Agency Funding and explained that we do have approval of the national contract from NOIS for $299,499. Approval has also been given for a contract for $18,750 from the Wisconsin Manpower Services Council as the interim quarter (July, August, September) funding. In addition, approval has been granted for July 1 - June 30 for $25,000 from the State Board of Vocational, Technical and Adult Education. WOIS is still in need of a 12-month grant for $75,000 which was submitted to the Manpower Council and will be voted on in September.

8. The Annual Report has been completed; however, it was not available for discussion as it has been delayed at the printers. This report will be mailed to Board members.

9. There was discussion concerning topics for future meetings. Board members were asked for individual input concerning 77-78 goals. The ideas were as follows: Robert Van Raalte suggested the value of having an evaluation system built into the operation; Al Thurner questioned interfacing of the WOIS system and the State Employment Job Placement Bank; John Nierengarten recommended that budget plans and market assessment be two possible topics that could be dealt with; Roger Lambert suggested that the next meeting could be used for an introduction of what WOIS is at present, so everyone can see how it operates, what is in it, what it represents, etc.; Roger Lowney indicated it might be of value to ask one representative from each user agency (public school system, UW system, etc.) to come to a board meeting, possibly in the spring, to discuss the program and how it affects their schools.

10. Donald MacTaggart recommended that the minutes of the last meeting be approved with Al Thurner seconding. The motion carried.

11. Roger Lowney made the motion to approve the regional center contracts from Waukesha, Whitewater, Green Bay and LaCrosse and seconded by Donald Jacobson. The motion carried.

12. Donald MacTaggart moved that River Falls' contract be approved contingent upon them naming the coordinator. It was seconded by John Nierengarten. The motion carried.

13. It was agreed to carry over MACC's contract until the next board meeting.

14. Roger Lambert suggested that in the future the Distribution Center contracts could be signed by the Chairman and need not be voted on by the Board unless changes are indicated in the contract. Andy Cohn moved that this suggestion be accepted by the Board and Donald MacTaggart seconded. The motion carried.

15. Dick Johnston gave the report on Finance and Fees. Donald MacTaggart stated that he wanted Items 2, 5 and 9 voted on separately. John Nierengarten added Items 3 and 6 to this list. Andy [illegible]hn moved that Item 2 (which recommends that a standing committee be established) be accepted and Dick Johnston seconded. The motion carried.

Dick Johnston moved that Item 3 (recommendation of a 45¢ user fee) be approved with Roger Lowney seconding. The motion carried.

Dick Johnston moved that Item 4 (recommendation of a $160 minimum fee for any group of WOIS users) be accepted; John Nierengarten seconded. The motion carried.

Following discussion, Donald MacTaggart moved that #5 (concerning fee coverage) be accepted with the deletion of the phrase "this fee cover those materials necessary to operate a manual access system when one is developed." Andy Cohn seconded. The motion carried.

Andy Cohn moved that Item 6 (recommendation that the WOIS staff have discretion in establishing fees on an individual basis with those user groups not having a set fee) be approved with Al Thurner seconding. The motion carried.

Dick Johnston moved that Item 9 (recommendation that WOIS fees for user groups be appropriately reduced or eliminated if support for WOIS is received from the user group's parent organization) be approved with Al Thurner seconding. Motions were withdrawn and a new motion was made by Robert Van Raalte to defer Item 9 until the October meeting. Al Thurner seconded. The motion carried.

16. The September 21 Board Meeting has been cancelled. The next Board Meeting has been set for October 19, 1976.

17. The meeting adjourned at 12:15 p.m.

CN 33 8/76

Wisconsin Occupational Information System

Board of Directors Meeting

Agenda - August 17, 1976

Wisconsin Center-Room 109

9:45 a.m. Meeting Convenes

1. Call to order
2. Roll Call
3. Introduction of New Staff
4. Adoption of Agenda
5. Old Business
   - a. Approval of the Minutes (CN 32)
   - b. Report on User Services
     In-service plans
   - c. Report on Information Development
   - d. Approval of Regional Center Contracts
   - e. Approval of Report on Finance and Fees Committee
   - f. Report on State Agency Funding
6. New Business
   - a. Presentation of Annual Report
   - b. Discussion of Topics for Future Meetings

11:45 a.m. 7. Adjournment

Agenda Item 5 E

Report to the WOIS Board of Directors from the Committee on Fees and Budget

1. The Committee on Fees and Budget met on two occasions, July 13, 1976, and July 28, 1976. The Board in its charge to the Committee requested an interim report by the August 17, 1976, meeting. However, the Committee believes its deliberations have been fruitful and recommends that the Board take action upon the committee report.

2. The Committee recommends that the Board move to establish the Committee as a permanent, standing committee. Several of the issues described below were discussed in detail but not resolved. Additionally, the Committee recognizes that projecting fees and budget even for 24 months is a perilous venture and that projections beyond 24 months are primarily guess work. (Action recommended)

3. The Committee recommends a user fee of 45¢ (forty-five cents) per potential user of WOIS services. The Committee recommends that this fee be established independent of the definition of a potential user because of the variation between user sites. (Action recommended)

4. The Committee recommends that a minimum fee be established for any group of WOIS users. This minimum fee would be $160 (one hundred and sixty dollars). This fee is designed to support a minimum expenditure required for providing service to any user group. The fee includes such items as continuous inservice training, support for information development, and yearly on-site visitation by WOIS staff. (Action recommended)

5. The Committee recommends that the fee should cover those materials described in paragraph 3 section E of the Distribution Center Agreement. The Committee also recommends that, with the exception of the delivery mechanism, this fee cover those materials necessary to operate a manual access system when one is developed. (Action recommended)

6. The Committee recommends the following definitions for potential users. For public and private, secondary and junior high schools, potential users are one hundred percent of those who have access to WOIS information as evidenced by the location or building in which the materials are located. However, the Committee recommends that the WOIS staff have discretion in those cases involving students ninth grade and under from schools housing their total population in one location. For two years UW Campuses and VTAE Schools, potential users are defined in the same manner as public and private, secondary and junior high school users. For four-year schools, potential users are defined as 100% of the freshman and sophomore populations. For other user groups, the Committee recommends that the WOIS staff have discretion in establishing fees on an individual basis with such user groups. This last recommendation grew from an understanding of the extreme variability in defining a potential user in such other groups. (Action recommended)

7. The Committee discussed in detail a possible distribution center fee for the WOIS program. Discussion covered the following areas: first, a fee for distribution centers would reduce the proliferation of distribution centers for the program in the state; second, a minimum distribution center fee could be established which would cover the expenses related to implementing and updating a program at a computing center; third, a distribution center fee would help generate a part of the revenue necessary for continuation of the program during and after the reduction of federal support; and fourth, a distribution center fee would be directly assessed to users and identified as an additional fee for WOIS services. The Committee recognizes a need for continued exploration of this subject and obtaining input from the directors of distribution centers.

8. The Committee discussed various ways of marketing WOIS and collecting user fees. The WOIS Staff was encouraged to explore various alternatives both regarding the focus of a marketing plan and methods of funding WOIS fees and distribution center costs from a variety of state and federal resources.

9. The Committee recommends that WOIS fees for user groups be appropriately reduced or eliminated if support for WOIS is received from the user groups parent organization. For example, funding from the State Board of Vocational, Technical and Adult Education would appropriately reduce ~~or~~ eliminate fees for VTAE schools. (Action recommended)

10. The Committee discussed the developmental and financial implications of an alternative delivery vehicle. Discussion included: first, the status of the WISC program; second, the results of the WISC evaluation which was carried out by the Wisconsin Vocational Studies Center; third, the costs and benefits of developing a WOIS manual system; and fourth, the potential of generating additional funds through hard copy production of WOIS materials which could be distributed to small user groups such as, libraries, social organizations, counseling organizations, and small school systems. The Committee believes this area to be a fruitful one for future discussion and an area in which the Committee can contribute by providing direction regarding such efforts.

CN 36 10/76

Wisconsin Occupational Information System

Board of Directors Meeting

Agenda - October 19, 1976

Wisconsin Center-Room 109

9:45 a.m. Meeting Convenes

1. Call to order
2. Roll Call
3. Introduction of New Staff
4. Adoption of Agenda
5. Old Business
    a. Approval of the Minutes (CN 35)
    b. Annual Report
        1. Questions or comments from Board Members
        2. Scope of work - refer to pp. 51-55 of Annual Report
    c. Approval of Regional Center Contract MACC, Madison, WI
    d. 1976-77 Budget Summary (enclosure)
    e. Parent Organization, Fee Structure.
6. New Business
    a. NOIS Evaluation - Jim Augustin
    b. WOIS - Job Bank, Report
    c. Report on Users to date - David Caulum
    d. WOIS Demonstration - David Caulum

11:45 p.m. 7. Adjournment

CN 36 10/76

WISCONSIN OCCUPATIONAL INFORMATION SYSTEM

Minutes of Board of Directors Meeting

October 19, 1976

Wisconsin Center - Room 109

Board Members Present: Steve Born (represented); Dick Johnston, Sue Flynn for Ellen Meister, Tom Hooker for Stan Spencer, Jim Jackson, Doug Lamont, Andy Cohn, John Storlie, Al Thurner, William Betchel, Donald Jacobson, Robert Van Raalte, Donald MacTaggert, Donald Mrdjenovich, Roger Lowney

WOIS Staff Present: Roger Lambert, Shelley Cary, David Miller, David Caulum, Jim Augustin, Vicky Linden

1. The meeting was called to order at 9:45 a.m.

2. Roll call was taken.

3. The two new WOIS staff members were introduced. They are Dean Wiseman, User Services Specialist and Vicky Linden, Secretary.

4. Minutes stand as written.

5. Old Business - Annual Report
Scope of work: Shelley Carey stated that at the last board meeting there was some question concerning the scope of work. It was pointed out that pp. 51-55 of the Annual Report addresses this question.

6. The MACC Distribution Contract was approved.

7. 1976-77 Budget Summary: All members received a summary of the Operating Budget from July 1, 1976 through September 30, 1977. Past budgets were reconstructed in order to put it into a more comprehensive form.

8. New Business:
Parent Organization--Fee Structure: A motion was adopted that WOIS would be provided free to the Urban League, CAPS and other Minority Groups, as identified through the Manpower Council.

9. NOIS Evaluation - Jim Augustin
The basic design that is being implemented is one that has been largely specified by NOIS. Basically, WOIS will be going to six schools to collect data on the system. Three of the schools will function as user sites a[illegible]ctually have the system this year (Green Bay, Kimberly, and Oregon). [illegible]ree other schools will function as control sites; they will not hav[illegible] system (Not known at this time, Port Washington, and Wauwautosa).

10. David Miller (Manager of Information Development) discussed enhancement of WOIS by inserting additional information concerning job openings.

11. Report on Users - David Caulum
At present, distribution centers are at Green Bay, Waukesha, Whitewater, MACC, LaCrosse, and River Falls. Also, at least on a temporary basis, distribution centers have been approved for Eau Claire and Kenosha (both closed centers). Seventy-one school districts are currently subscribing to the WOIS system.

12. Ellen Meister has resigned as Vice Chairman. A nominating committee will be formed for her replacement. It was announced that Tom Hooker has replaced Stan Spencer from the Job Service. Mary Graye has resigned as the representative of business and industry. Board members were asked to submit possible candidates for her replacement to Jim Jackson.

13. David Caulum demonstrated WOIS via video monitors. He reviewed each computer file and included access strategy.

14. The meeting adjourned at 12:00 a.m.

CN 41 12/76

Wisconsin Occupational Information System

Board of Directors Meeting

Agenda - December 21, 1976

Wisconsin Center - Room 225

9:45 a.m. Meeting Convenes

1. Call to order
2. Roll Call
3. Adoption of Agenda
4. Old Business
    a. Approval of Minutes (CN 37)
    b. Election of Vice-Chairman
5. New Business
    a. User Services - Modifications of User Fee Formula
    b. Materials Distribution Policy Modification
    c. User Services, Report, Update
    d. Information Development Report, Update.
    e. WISC, Manual Delivery System, Status Report
        1. Needle Sort
    f. Load, edit, and update, Status & Update (MACC)
6. Other

11:45 a.m. 7. Adjournment

CN 42 12/76

WISCONSIN OCCUPATIONAL INFORMATION SYSTEM

Minutes of Board of Directors Meeting

December 21, 1976

Wisconsin Center - Room 225

Board Members Present: Steve Born, Tom Hooker for Stan Spencer, Lorran Celley, Jim Jackson, Doug Lamont, Andy Cohn, John Storlie, Al Thurner, Ellen Hanson for William Bechtel, Donald Jacobson, Robert Van Raalte, Donald MacTaggert, Donald Mrdjenovich, Roger Lowney

WOIS Staff Present: Roger Lambert, Shelley-Cary, Dave Caulum, David Miller, Dean Wiseman

1. The meeting was called to order at 9:45 a.m.
2. Roll call was taken.
3. October 19th meeting minutes stand as written
4. OLD BUSINESS -

   A. Election of Vice-Chairman: Don MacTaggert was elected Vice-Chairman.

   B. Materials Distribution Policy Modification: The motion was made by Robert Van Raalte and seconded by Donald Jacobson to set the policy modification over and refer it to the Fee and Finance Committee. The motion carried. It was felt that more definative study be given fee alterations. Long term effects, determining number of terminals, manual backup system, information on total costs and problems of financing for the system in different sized user groups were given as the major reasons for reconsideration.

   C. User Services: David Caulum (Manager of User Service) provided a status report.

      1) 85 individual user groups are running.

      2) approximately 90% of all the local school districts have been contacted.

      3) A "WISER WOISER" pin will be distributed to individual users of WOIS.

4) All distribution centers are now running, with the inclusion of MACC.

5) A <u>free</u> search of WOIS will be made for graduating seniors participating in a program developed by JOB-Service.

6) Dean Wiseman was introduced as the new Information Specialist. He has recently presented WOIS to: 17 high schools, 19 CESA districts, and all correctional institutions in Wisconsin.

D. <u>Information Development</u>: David Miller (Manager of Information Development) provided a status report.

1) An additional 150 occupations will be ready for the system in January.

2) Corrections are being made of initial data error for January update.

3) Several headers have been changed in the computer retrieval system for simplification of cross-referencing.

4) David Miller attended a conference attended by all OIS states.

E. <u>WISC-WOIS Integration Report</u>: (Shelley Cary) provided a status report.

1) A letter was distributed to the Board which identified the general outcome of a meeting held with Dr. Dwight Stevens, D.P.I. Essentially, the outcome is as follows:

1) WISC will be retained as a major identifiable component of WOIS.

2) WISC will be the alternative delivery vehicle for information generated by WOIS.

3) WISC will be enhanced to: a) contain the same number and titles as in the computerized system b) contain human resource, state education and training, four year college, and financial aids file; and c) provide access through a needle sort system.

4) The future development and enhancement of WISC and its integration into WOIS, will be under the direction and supervision of the WOIS Board.

5) Users of WISC will share in the cost of enhancement, continual information update and expanded in-service at the rate established by WOIS Board, presently 45¢ per potential user. The fee is to begin in September 1977, and only for WOIS/WISC or WISC users.

2) Needle Sort: David Miller met with representatives of the Iowa Information System. They presently use a needle sort technique for accessing career information which is delivered by microfiche. This sort mechanism is being contemplated as the access format for WOIS manual delivery system.

3) Mr. Al Roberts (MACC) provided insight of the problems that were experienced in making WOIS available via computer at MACC. In addition, he presented some alternatives for WOIS, in updating our information at MACC next fall.

F. The meeting adjourned at 12:00 p.m.

WISCONSIN OCCUPATIONAL INFORMATION SYSTEM

Minutes of Board of Directors Meeting

February 22, 1977

Wisconsin Center - Room 109

Board Members Present:	Chuck Hackner for Steve Born, Bill Turken for Jack Kruaskaup, Dick Johnston, Richard Sawicki, Tom Hooker, Lorran Celley, Jim Jackson, Andy Cohn, John Storlie, Al Thurner, Ellen Hanson, Ellen Meister, Lee Bracken for Robert Van Raalte, Donald MacTaggert, Roger Lowney
WOIS Staff Present:	Roger Lambert, Shelley Cary, Dave Miller, Dave Caulum, Dean Wiseman

1. The meeting was called to order at 9:45

2. Roll call was taken

3. December 22nd minutes stand as written.

4. OLD BUSINESS
   A. Fee & Finance Committee Report: Dick Johnston.
   The following recommendations were made by the committee.
   (motion was made by D. Johnston, A. Thurner 2nding, motion carried)

   1. It is recommended that the user fee be waived for local user groups whose parents organizations make a substantial contribution to WOIS which is equal to or greater than the combined local user fees. However, materials distribution should be based upon amounts provided to 'minimum fee' users; additional materials tc be available at 'user cost'.

   2. Previous board policy, (CN35) passed during the October WOIS Board meeting, stated that large users (i.e., UW campuses) be assessed a fee based upon a potential user defined as 100% of freshman and sophomore enrollment. It is recommended that this policy be modified making this method of assessment a maximum for a particular campus. Further, it is recommended that units within the larger organziation (i.e., Guidance Centers) be assessed a fee based upon a potential user defined as the population of the clientele having face-to-face contact within the unit. Finally, it is recommended that this method of determining the user fee for large institutions be applied in all situations where clearly defined units within a larger organization serve a clearly defined sub-section of that organizations' clientele.

   3. It is recommended that the User Fee be modified to provide a cost break to large users justified by cost savings in serving large users and by inherent problems of equal access for individuals in such groups. It is recommended that for user groups with more than 1,000 be $0.45 times one-half the number of users over 1,000. This recommendation was strongly supported

by the Directors of the Distribution Centers based upon their belief that it would be extremely important to the success of their marketing efforts and, thus, to their efforts to expand their user base and reduce their per user group cost.

4. It is recommended that the Board provide in writing, to each Distribution Center support as to the worth of the software program which is available to them at no cost to help them establish fiscal accountability with respect to their having the WOIS program available at no additional cost to users.

5. It is recommended that materials distribution be based upon the following policy statements to be implimented by WOIS staff.

   1. Computer users of WOIS will receive access to the computer, support materials necessary to operate it effectively in their settings and hardcover materials.

   2. Manual users of WOIS will receive the manual sorting system, support materials necessary to operate in their settings and all hardcover materials.

   3. Quantity of materials distributed will be based upon the user fee paid (which relates to numbers of potential users).

   4. User groups whose fee is supported by parent organization support will receive the quantity of materials normally distributed to 'minimum fee' users.

5. NEW BUSINESS

A. Quarterly Report was distributed. No questions were asked.

B. Occupational Information System's Grant Program: State Project Summaries (Jim Jackson presented a brief) Board members will receive a copy.

C. David Miller demonstrated the printed copy needle-sort access system. This system accomodates 58 selectors used to delineate 400 occupations.

D. David Caulum presented information concerning the printed version of WOIS.

   1. A "Sort" file consisting of abstracts of an occupation will be introduced.

   2. The Human Resource file will be modified, deleting individual references and adding apprenticeship training information.

E. 1977-78 Operational Budget (Roger Lambert)

1. It is anticipated that the Department of Labor will continue to fund a major portion of the project ($225,000).

2. It is anticipated that the State Board and Manpower Services Council will continue to fund this project.

3. It is likely we will seek some revenue from the secondary people in vocational education.

4. The Fee & Finance Committee will continue to develop an itemized budget for next year.

5. It is anticipated that a budget will be brought to the Board at the next meeting in April.

F. Gene Craven was appointed to replace Doug Lamont on the Fee & Finance Committee.

Other

John Storlie reported that he has gathered material relative to an "Adult Basic Skills" program that could be demonstrated to the Board in the future. This program would tie into WOIS creating additional alternatives for individual user groups.

G. Next meeting date was set for April 19, 1977.

H. Meeting adjourned at 11:00 A.M.

WISCONSIN OCCUPATIONAL INFORMATION SYSTEM

Minutes of Board of Directors Meeting

April 19, 1977

Wisconsin Center - Room 316

Board Members Present:	Chuck Hackner for Steve Born, Tom Hooker, Lorran Celley, Jim Jackson, Gene Craven, Andy Cohn, John Storlie, Ellen Hanson, Mike Condit for Ellen Meister, Donald Jacobson, Robert Van Raalte, Don Battenberg for Donald Merdjenovich, Roger Lowney, William Wilberg
WOIS Staff Present:	Roger Lambert, Shelley Cary, David Miller, David Caulum, Dean Wiseman, Darcy Mellen-Sullivan, Carl Grady

1. The meeting was called to order at 9:45

2. Roll call was taken

3. OLD BUSINESS - Resume of policies for the financial transactions of WOIS proposed by the Fee and Finance Committee and approved by the Board. (Blue sheets handed out).

4. Minutes are approved as written.

5. NEW BUSINESS

   A. Users Services Report. (David Caulum) at Washington D.C. Better Information for Student Choice Conference--The major purpose was to determine what kind of support we could get for extensions or modifications of WOIS to make it a better system. They are at the point of information development. They intend to start moving in the direction of "How do we get the information to the student at the appropriate time?" This could include WOIS. Secondly, which was a spin-off of the conference, was meeting a person in the UW system who was involved in a better information package with funding from the aforementioned organization. At this point, with the exception of Ohio, everyone seems to be moving ahead well. In the Occupational Information area, it looks like we are ahead of the other states. In terms of Education and Training Information, I see one lack in our system and that is in the area of programs. On Resource Information everybody is plunging ahead. In the area of Financial Aids it looks like we are doing something that no one else is doing, which is providing good information to students to be aware of financial aids and the way to obtain them. In terms of Overall Development of

Programs, the most interesting one is in Michigan because they have created their own computer program. On Delivery we seem to be on top, with only Michigan surpassing because they are giving it away. (they have state support).

B. Information Development Report (David Miller)
The sort file is a major part of the Manual Backup system, the purpose being to allow users to search through and look at brief descriptions of jobs after narrowing the search to five or etc. To date, we have developed 387 occupations, with 285 "SORT" descriptions entered into computer. (Printout handed out). In addition, DILHR is involved in developing entry requirements.

C. Budget (Roger Lambert)
Emphasis is placed on increasing User Services areas and decreasing Information Development. Also there will be a decrease in management with the emphasis on user services. It is anticipated that 9.75 professional and 3.9 clerical will be needed. Contracted services will remain at 2.5 with DILHR. Contract with Time Share again for the soft ware for $18,000. We continue to look at bringing the update program to Wisconsin. The rule this year for grant is that D.O.L. will pay up to 75% of last years grant if it does not amount to more than 50% of the total project. The budget reflects a fair amount of agency contribution. Should something happen to the contribution, our match would be affected.

Roger Lowney made the 1st motion to accept finance committee proposal
Jack Storlie seconded the motion. The motion carried.

D. Appointment of committe to nominate a president.
Robert Van Raalte moved that the chairman and executive director nominate a committee to come up with two candidates for president. Ellen Hanson seconded the motion. Appointed to the committee were Donald Jacobson, Ellen Hanson, and Jim Jackson.

6. OTHER
(added items) 1. A report on community information by Shelley Cary.

7. Next meeting date will be June 14th.

8. Meeting was adjourned at 11:00 A.M.

FINAL 150 STATE OCCUPATIONS

1. FARMER
2. GENERAL FARM HAND
3. DANCE TEACHER
4. DAY CARE TEACHER
5. FRAMER, MANUFACTURED BUILDINGS
6. TANNERY WORKER
7. HEAT TREATER
8. ART THERAPIST
9. HOME HEALTH AIDE
10. TOOL DESIGNER
11. ELECTRIC MOTOR REPAIRER
12. CENTRAL OFFICE REPAIRER
13. TECHNICAL WRITER
14. METAL FABRICATOR
15. VENEER CLIPPER
16. TREE SURGEON HELPER
17. COIL WINDER
18. MARKET RESEARCH ANALYST
19. PROPERTY MANAGER
20. ARCHIVIST
21. DAY WORKER
22. RETAIL FLORIST
23. SHIPFITTER
24. FIBERGLASS LAY-UP WORKER
25. ELECTROENCEPHALOGRAPH TECHNICIAN
26. NURSE AIDE/ORDERLY
27. MEDICAL LABORATORY TECHNICIAN
28. INHALATION THERAPIST
29. HOSPITAL ADMITTING CLERK
30. OPERATING ROOM ASSISTANT
31. ELECTROCARDIOGRAPH TECHNICIAN
32. NURSE ANESTHESTIST
33. HOSPITAL/HEALTH ADMINISTRATOR
34. MEDICAL RECORD TECHNICIAN
35. MEDICAL RECORD ADMINISTRATOR
36. NUCLEAR MEDICAL TECHNOLOGIST
37. DISPLAY PERSON
38. PSYCHIATRIC AIDE
39. FBI AGENT
40. ELECTROMEDICAL EQUIPMENT REPAIRER
41. DRIVER'S LICENSE EXAMINER
42. RESEARCH ANALYST
43. JOB SERVICE SPECIALIST
44. FINGER PRINT EXAMINER
45. PRODUCTION MANAGER
46. INDUSTRIAL WASTER INSPECTOR
47. CHIROPRACTOR
48. DENTAL ASSISTANT
49. MUSIC THERAPIST
50. TILE SETTER

51. FISH AND GAME WARDEN
52. RIGHT-OF-WAY AGENTS
53. PARKING ENFORCEMENT OFFICER
54. CORRECTION OFFICER
55. METER READER
56. PLASTERER
57. CONSTRUCTION WORKER
58. FLIGHT ATTENDANT
59. JANITOR
60. STEAM FITTER
61. GARBAGE COLLECTOR
62. MATERIAL HANDLER
63. FLOOR LAYER
64. MACHINE CLEANER
65. DRYCLEANER
66. HOTEL/MOTEL CLEANER
67. HOTEL/MOTEL MANAGER
68. FURNITURE UPHOLSTERER
69. SEWER, DRAPERY
70. SEWAGE PLANT ATTENDANT
71. RESTAURANT MANAGER
72. SUPERCALENDAR OPERATOR
73. FOURDRINIER MACHINE TENDER
74. PAPER COATING MACHINE OPERATOR
75. BACKTENDER, PAPER MACHINE
76. PULP REFINER OPERATOR
77. DIGESTER OPERATOR
78. BEATER ENGINEER
79. PULP AND PAPER TESTER
80. RESTAURANT HOST/HOSTESS
81. LOAN OFFICER
82. CROSSING GUARD
83. PROBATION AND PAROLE AGENT
84. FOOD SERVICE WORKER
85. MAIL CLERK
86. FOOD SERVICE SUPERVISOR
87. INDUSTRIAL SAFETY INSPECTOR
88. SCREW MACHINE OPERATOR
89. GEAR HOBBING MACHINE OPERATOR
90. EMPLOYMENT INTERVIEWER
91. ASSEMBLER, PRODUCTION LINE
92. BREWMASTER
93. BREWERY WORKER
94. AUTOMOBILE UPHOLSTERER
95. PROPERTY APPRAISER
96. PRODUCTION LINE SOLDERER
97. ELECTRONICS ASSEMBLER
98. ART TEACHER
99. MEDICAL FACILITY MAINTENANCE MECHANIC
100. TEACHER OF THE BLIND

101. MUSIC TEACHER
102. LANDSCAPE ARCHITECT
103. BUILDING INSPECTOR
104. ARCHITECTURAL DRAFTER
105. CIVIL DRAFTER
106. PHYSICAL EDUCATION TEACHER
107. DENTAL LABORATORY TECHNICIAN
108. BILL COLLECTOR
109. GUNSMITH
110. TRADE AND TECHNICAL TEACHER
111. SALES ASSOCIATE, MACHINERY
112. BAKER
113. DETECTIVE, PRIVATE
114. PUBLIC HEALTH SANITARIAN
115. SPEECH AND HEARING CLINICIAN
116. FUNERAL DIRECTOR/EMBALMER
117. PEST CONTROL TECHNICIAN
118. AIRCRAFT MECHANIC
119. AUTOMOBILE PAINTER
120. BOWLING ALLEY MECHANIC
121. AUTOMOBILE TRANSMISSION MECHANIC
122. SHOE REPAIRER
123. AUCTIONEER
124. SPECIAL EDUCATION TEACHER
125. CERAMIC ENGINEER
126. STRIPPER, PRINTING AND PUBLISHING
127. TRAVEL AGENT
128. TELEVISION CAMERA OPERATOR
129. ADVERTISING LAY-OUT PLANNER
130. RECREATION ACTIVITY LEADER
131. OPTICIAN
132. MODEL
133. MOTORCYCLE MECHANIC
134. CAMERA REPAIRER
135. METEOROLOGIST
136. SALES ASSOCIATE, CHEMICALS AND DRUGS
137. TEACHER AIDE
138. TITLE EXAMINER
139. STOCKBROKER
140. WINEMAKER
141. PROTHETIST/ORTHOTIST
142. CURATOR
143. COIN VENDING MACHINE COLLECTOR
144. INDUSTRIAL TRUCK MECHANIC
145. CRUSHER OPERATOR
146. FURNACE INSTALLER
147. PARK RANGER
148. GAS APPLIANCE SERVICER
149. WOOD PATTERNMAKER
150. DRY-WALL INSTALLER

Guidelines for Occupational Information Development

The scope of work guidelines identified the required areas to be covered by each occupational description. The following is a summary of the manner in which these areas were covered:

1. Description of Nature of Work. Many resources exist for this information. Those frequently used were the Occupational Outlook Handbook, Dictionary of Occupation Titles, Apprenticeship Handbook for Wisconsin, and descriptive information from unions, agencies and associations representing specific occupations.
2. Job Outlook Information. Among the resources used to develop this information were Employment 1980 Projections for state and local data and the Occupational Outlook Handbook for national information. Two important resources were developed by the WOIS staff through telephone surveys of major employers and mail surveys of Employment Service plavement specialists and labor market information specialists. This information was made geographically specific. This Wisconsin Employment 1980 Projections reported data by Standard Metropolitan Statistical Areas SMSA'S and State Administrative Planning Districts. The telephone and mail surveys also provided a great deal of geographically specific information. Analysis and interpretation of the Geography of Wisconsin Manufacturing enabled the WOIS staff to identify possible areas of increasing and decreasing employment.

   One of the most difficult problems in reporting supply-demand information is that existing supply data are not reliable. To develop a mechanism for gathering these data is not within the scope of the project. The WOIS Information Development staff is working with the staff of the Unemployment Compensation section, which is researching characteristics of the unemployed with the hope of devising an index that will be geographically specific and relate to the number of people wvailable for work. To some degree it will be possible to identify the work that persons were doing before their unemployment and the type of work they are currently seeking. This effort, if successful, will be a valuable addition to WOIS.

   The Information Development staff devised a coding system to report this data by Computer. The data are reported as state-specific and region-specific. The definitions for the code used are a rewording of a more complex coding system devised by the staff of the Occupational Projections Unit in the State Bureau of Research and Statistics. Respondents to the WOIS surveys used our coding scheme to insure consistent interpretation throughout collection.

3. Earnings. Information on earnings was not made geographically specific since it was found that salaries did not usually vary significantly statewide. When they did, they were usually in the Metropolitan Milwaukee area. Further analysis revealed that physical location had little to do with significant variations in wage rates. Union representation, competition for workers, cost of living, and hiring requirements all appear to have a greater impact on earnings than does geographic location. To comply with the scope of work, a statewide average starting salary is reported at the end of the occupational description. This is reported in the most typical means of receiving pay i.e. hourly, weekly or monthly. The section on working conditions indicates the typical number of hours in a work week, as well as incentive pay and overtime hours that may be expected. The section on promotional opportunities indicates the wage range for the beginning and subsequent job levels.

   Most often this information was obtained from published construction wage rates, union agreements and Occupational Opportunities Information (Job Service Publication). Unpublished sources of these data include placement and follow-up statistics of schools and WOIS staff surveys of employers. Some information from associations representing specific occupations was occasionally used.

4. Training and Educational Requirements. Five types of career information are included in WOIS. These are: High School/College, Vocational-Technical; Military Titles; On-Job Training, and Previous experience. Each part is discussed separately and summarized in a Method of Entry section. The summary presents the most viable method of entering an occupation first, given labor market conditions. Alternative methods, if any, are listed next. On-Job Training includes apprenticeship if it exists, and the method of entry includes any licensing requirements and a statement on how employers seek workers

and fill positions. The most frequently used sources of information are the <u>Dictionary of Occupational Titles</u> (DOT), Vol. II, the <u>Occupational Outlook Handbook</u>, WISC Information, <u>Apprenticeship Notebook</u>, <u>Career Education Directory</u>, the <u>Directory of Licensed Occupations</u>, Occupational Analysis Field Center World of Work Publications, and Appalachian Education Laboratory's Worker Traits Group Subject-Occupational Comparison Chart. These sources identify current trends in hiring requirements. Another concise but unpublished resource is the Occupational Analysis Field Center's DOT research/industry studies. Access to these reports and to Field Center Job Analysis have permitted the WOIS staff to list the most viable entry requirements. The Information Development staff is standardizing these parts for certain groups of jobs such as the machine trades. The overall aim is to devise a useful reporting format for training and educational requirements which insures the least loss of quality, continuity and style among Job Developers.

5. <u>Advancement and Transfer Opportunities</u>. To comply with the requirement for advancement opportunities information, the staff illustrates promotional ladders or a series of jobs representing promotional possibilities. The WOIS's analysis led to the conclusion that the career ladders approach was the least complex and provided useful detail.

The need to specify transferability of skills led to problems concerning user interpretation. A technically accurate presentation was found to be difficult to understand, as transfers can be lateral moves to closely related or to completely unrelated jobs, as in a union transfer system. Transfers can also be lateral-promotional where skills that relate to one job are relevant to another area, as in managerial occupations. The staff did not establish guidelines for transferability because of the lack of uniformity. To evaluate this approach, the staff is currently developing a matrix of all the WOIS occupations. When it is complete, marginal examples of transfer opportunities will be eliminated while other, strong job relationships will be clarified. Job relationships can be important information for users, particularly counselors, educators and placement people.

6. Special Equipment. Whenever possible a functional description of special equipment or tools included only those tools or pieces of equipment which are unique or not in the job description.

7. Working Conditions. The normal work week, overtime, seasonal hazards, safety devices, fringe benefits and some physical and environmental factors are usually included.

8. Job Identification for Handicapped and Disadvantaged Workers. Contacts have been made with representatives of WIN, Vocational Counseling, and the Department of Health and Social Services in an effort to identify occupations that are suited to various types of handicaps. These occupations will be included in the development of the next 150 WOIS occupations.

9. Sex Distribution. This information was not available for 80 percent of the jobs. The type of information available ranged from descriptive to actual numbers and percentages. The WOIS staff have received information from the Women's Bureau. Future efforts in this area will be directed toward identifying jobs in which women are gaining acceptance.

An example of the information developed on each occupation is found in the job development schedule (see Job Development Schedule, Appendix II-B for the occupation of Food Technician). The Occupational description entered into the computerized state occupational file is condensed from the job development schedule (see Occupational File Printouts - Appendix II-C).

Geographic Specificity Plan

The plan was to utilize the most efficient division of the State of Wisconsin to organize geographically specific data. The eight Administrative Planning Districts were chosen as these were most compatible with existing job outlook and economic information. Information that could be collected on a county-wide basis was easily adapted because Administrative Planning Districts follow county lines (See Figure 1, page 26). The WOIS Board of Directors unanimously approved the plan.

Occupational Information Administrative Procedures

Several means were divised to accomodate the large amounts of information which were entered into the system daily. An occupatoinal file was developed for each occupation. When information pertained to more than one file, it was copied and placed in all of the appropriate folders or a note was made on its location.

Location of this type is filed under an appropriate topical heading in alphabetical order. Information which is dispensed is always copied so that the original or at least a copy is retained. The memo or cover letter is filed in an information sent-received system.

Another method employed is an information control system. This is a check list on each folder in the occupational filing system. Each job developer initials resources actually used. If information is questioned later or needs updating, it can be traced to the original source. Separate card files are being maintained on human resource contacts and newspaper help wnated ads.

Additional indexing systems are the Department of Industry, Labor and Human Relations' Research and Statistics and Occupational Analysis Field Center Libraries and the Resource Materials Center of the Wisconsin Vocational Studies Center. A system has been developed to keep track of information between development, editing, proof reading and entry onto the computer consisting of an editing file, the occupational file, a proofing file and a computer entry and copy file. The copy file is designed to disseminate final typed copy to WISC for microfiche copying and to the information developers for writing occupational briefs.

Agency Contacts

During the second year of operation many agencies were contacted for assistance. Contacts were made by phone or personal visit. Materials describing WOIS and its information needs were provided first hand or mailed. All of the administrative sections of thw Wisconsin Job Service were contacted and provided WOIS with information and/or technical assistance. Sixteen of the eighteen district offices provided information. Sections of the Department of Industry, Labor and Human Relations provided information about the positions they offer.

Examples of additional associations contacted are found in the following list taken from the information development file.

Wisconsin Society of Certified Engineer Technician, Inc., Milwaukee
Wisconsin Dental Association, Milwaukee
Wisconsin Society of Professional Engineers, Madison
Society of Southeastern Wisconsin Land Surveyors
The Society of Actuaries, Chicago
American ~~Society of~~ Agricultural Engineers, St. Joseph, MI
Society of Women Engineers, Milwaukee Section
Wisconsin Optometric Association
Wisconsin Institute of CPA's, Milwaukee
State Medical Society, Madison
International Union of Elevator Constructors, Local #15, Milwaukee
Tool and Die Lodge #78, Milwaukee
District #10 Machinists
Millwrights Union Local 2337, Milwaukee
Sheet Metal Worker's International Association, Union Local #249, Madison
Plumbers' Union, Milwaukee
Steamfitters' Local Union #601, Milwaukee
Wisconsin Cheesemakers' Association, Madison
American Society of Interior Designers, Wisconsin Chapter
Realty Association
Apple and Horticulture Council, Inc., Oak Creek
Glazier's Union, Milwaukee
Operating Engineers Local 139, Milwaukee
Carpenter and Joiners Union, Local 314

Materials were obtained from various trade associations, unions, employers and educational institutions. Agencies that disseminate publications see a great value in WOIS because it provides a new outlet for their materials. A contact that was made and will be pursued during the next project year is with the Department of Health and Social Services soliciting their assistance in identifying jobs for the disabled and handicapped. The Boy Scouts will be contacted for thier assistance with the Human Resource File.

Information Validation and Updating

Those aspects of the system that the WOIS staff plan to update have been identified. They are as follows:

Wages
Employment Outlook
Human Resources
Educational Institutions
Educational Programs,
Job Selections
Hiring Requirements and Method of Entry

Selectors and Keying of Occupations
Inter-file References

The actual guidelines to be used for updating have not been developed. A seperate file for information to be updated has been established. Any changes will be forwarded for computer entry and WISC updates.

Validation of the occupational information has been a continuing process. This process included telephone contacts with major employers. The contacts helped WOIS staff validate published information. Some important aspects of the validation process are as follows.

1. Job tasks were validated.
2. The employment outlook was often refined on a geographically specific basis.
3. Promotional and transfer opportunities were made more credible.
4. Wage estimates were tested.
5. Descriptions of hiring practices were modified.
6. Employer requirements, expecially their educational requirements were checked.
7. Information was gathered on the importance of jobs in given regions of Wisconsin.

APPENDIX IIC

WOIS #10

Computer Programmer
DOT: 020.188

Occupation Description:

Computer programmers write instructions or programs for computers. A program contains the steps a computer follows to solve a problem or present information. Many programmers work in institutions in the business, science and education areas.

Business programmers decide what information is needed to solve a problem. Then they prepare a flowchart which provides a step-by-step look at how the problem will be solved. From the flowchart, they write instructions using symbols and computer language. The computer is told exactly what to do with each piece of information. Programmers also test programs for errors and prepare instructions for computer operators.

The average starting salary for programmers is $11,000 per year. The national job outlook through 1979 appears to be good. In Wisconsin, census projected 1,290 job openings for computer programmers from 1970 to 1980. At this time, there are more jobs than qualified programmers to fill them. From now until 1980 this situation is not expected to change.

Other names for this occupation:

Digital-Computer Programmer
Business Programmer

References to Other Information in WOIS:
Print NOCC File: 916
See WISC Card: B-26
Print HUMR File: 10
Search by STET Program: 117
Search by COL4 Program: 119
Military occupational training: Army, Navy, Air Force, Marines

1970 Employment: 2430
1980 Employment: 3160

Type P1 For An Explanation of the Next Table.

Regional Data:	R1	R2	R3-4	R5-6	R7	R8
Job Oppr (1970-80)	343	705	146	53	43	NIA
Curr. State Employment	F	F	G	LO	LO	P
Long-Range Outlook	C	C	C	C	C	C

Method of Entry:

The minimum hiring requirement for most employers is a two year associate degree in computer programming from a vocational-technical school. A four year bachelor of science degree in computer science is often more valuable for getting a job and then being promoted to a better paying job later on. Additional hiring requirements often include experience in a computer language such as COBOL or BASIC, or in working with a type of computer.

Government agencies, large manufacturers, banks, insurance companies, universities, and computer service companies are all major employers of programmers. They advertise openings at vocational schools and college placement offices. Ads for job openings can also be found in newspapers and with the Job Service. Due to the current demand for programmers, many people get their jobs by applying directly with companies they want to work for.

Advancement Opportunities:

Beginning programmers work under close supervision doing standard programming jobs. As they gain experience, programmers are usually promoted to more responsible programming jobs. At high levels, they receive better pay and work under less supervision.

Other promotions may be to a systems analyst or supervisory jobs such as senior programmer. It is often more difficult for a vocational-technical school graduate to advance to these jobs than it is for a programmer with a B.S. degree. Further, a college graduate may also start at a better paying job. The reason is that the college degree offers more comprehensive training than the vocational degree.

Related Job Opportunities:

Those interested in computer programming may also be interested in other jobs related to professional-business jobs or electronic-scientific equipment. Examples are:

Other jobs related to professional-business activity:

Accountant	(prof. and bus.)	160.188	P9
Legal Secretary	(clerical)	201.368	P24
Medical Secretary	(clerical)	201.368	P40
Purchasing Agent	(any industry)	162.158	P51
Manager Trainee	(any industry)	189.168	P52
Buyer	(retail trade)	162.158	P55
Public Relations Practitioner	(professional)	165.068	P209
Actuary	(professional)	020.188	P216
Loan Officer	(banking)	186.288	P331

Other jobs related to electronic-scientific equipment:

Electrical/Electronic Engineer	(electronics)	003.081	P208
Mechanical Engineer	(engineering)	007.081	P211
Electroencephalograph Technician	(medical service)	078.368	P275
Computer-Peripheral Equipment Operator	(computers)	213.382	P16
Radiologic Technologist	(medical service)	078.368	P37
Electrical/Electronic Technician	(professional)	003.181	P81
Tool Programmer	(machine shop)	007.187	P85
Electromedical Equipment Repairer	(medical electronics)	729.281	P290

GUIDELINES FOR SELECTOR ASSIGNMENT

INTRODUCTION

In this paper, we are going to discuss: (a) identifying aptitudes, (b) rating aptitudes, and (c) assigning significant aptitudes as selectors. In order for these procedures to be understood, a brief overview of what the aptitude component means is in order.

APTITUDES

The first topic is related to the concept of aptitudes and how its rating mechanism is set up. An aptitude is a specific capacity or ability required of an individual in order to learn or perform adequately a task or job duty. The numbers used to rate aptitudes represent one of five levels of ability. These levels are illustrated on page 233 of the Department of Labor's Handbook for Analyzing Jobs. The five levels are established by first dividing the working population into thirds: the upper third, the middle or average third, and the lower third. Then, to get a total of five levels, the upper third and lower third are further divided. The highest aptitudes are drawn from the upper 10% of the highest third while the lowest aptitudes are taken from the bottom 10% of the lowest third.

The benchmark jobs themselves are assigned to the different levels based on General Aptitude Test Battery scores of workers who were considered to be average performers in their respective occupations. The implication is that acceptable performance is indicative of a situation where a person's aptitude level is not significantly out of phase with what is needed to perform those job tasks.

Level one, then, represents the portion of the working population with the highest degree of the aptitude. To state this another way, the top 10% of the work force would have the highest assurance of acceptable job performance. Level two represents the upper one third of the work force, exclusive of the top 10%. At this level, one third of the work force would have the highest assurance of acceptable job performance. In a like manner, level three represents the middle one third of the work force--what we would call the medium degree of aptitude and could be performed by at least two thirds of the work force. A job rated for an aptitude at level four could be performed by 90% of the work force; while at level five, nearly everyone could function satisfactorily at the job. Level five ratings generally are referred to as having no significant relationship to job performance.

Because the user is offered the choice of selecting one or more of the aptitudes and not levels of aptitudes, a major problem is one of assigning them in a meaningful or significant way. In a literal sense, the larger the percentage of the work force capable of acceptable performance, the less significant the aptitude becomes. Which aptitudes, then, should be considered significant for the purposes of assigning them to a particular job? For example, how does one decide which aptitude to assign if no aptitude is rated above the four level. Or, which ones should be assigned where some are one's or two's, some three's, and the rest four's? One cannot just assign most of them because the user will be cheated out of the precision which helps make the system valuable. So one must be selective in assigning aptitudes, thereby assuring accuracy of distinction between jobs where a distinction should be made! On the other hand, it is not good to be too distinctive, either, as the following discussion of Occupational Aptitude Patterns (OAP's) shows.

OAP's are families of jobs for which specific aptitude norms have been established for a certain combination of aptitudes. If a job, through test analysis, is found to have the same aptitudes with the same cutting scores, it is placed in the appropriate family. Families are created by grouping jobs with the same specific aptitude norms. Several OAP families can have the same combination of aptitudes but with different cut off scores. Three aptitudes in a specific norm for a job is apparently the standard. A job with four aptitudes in its specific norm is placed in each family of occupations with any three aptitudes in common. A job with two aptitudes in its specific norm is experimentally placed in each of the families with norms including both of the aptitudes.

While it is true that OAP's do identify the most significant aptitudes according to test results, there are a number of problems related to the fact that the OAP aptitudes are too specific. One of these problems is that other aptitudes may also be important to the job performance, but testing has identified only those aptitude cut off scores necessary for the best chance to succeed in the occupation. Therefore, the OAP's needlessly limit the number of aptitudes one could assign as selectors because they are success oriented. Our assignment of selectors to bridge the gap between user and the system should not be based on potential success. Another problem with the OAP aptitudes is that they are subject to change due to ongoing retesting. Wisconsin's test development people indicate that these changes can be quite radical, making updating a significant problem. Further, the same job in different work settings could have different OAP scores because of varying tasks and responsibilities. By not considering these variations, one narrows the scope of aptitudes for the job. Therefore it, too, is a limiting feature of OAP families. To summarize, using the OAP and its built-in exactness to assign aptitudes would be too limiting, misleading, and subject to change.

Illustrating the use of OAP's to assign aptitudes helps to demonstrate that being too specific is inappropriate. What resources, then, are available or what criteria can be followed for assigning significant, distinctive aptitudes that are neither too specific nor too general?

Identifying and rating aptitudes are the important first steps to determining their significance and their eventual assignment as selectors. The best way to identify and rate aptitudes for an occupation is to learn to use the Handbook for Analyzing Jobs mentioned earlier. (Volume II of the DOT offers an aptitudinal profile in its Worker Traits Arrangement. This cannot, however, be used to assign aptitudes for individual jobs because it is really only an average profile of all the jobs in the WTG.) Beginning on page 233 of the Handbook, the aptitudes are divided into the five levels discussed earlier. The benchmarks for each aptitude level are meant to be used on a comparative basis. A job analyst will make aptitude and identification ratings using the following procedure. First, those aptitudes which clearly have no relationship to job tasks are identified and rated for the five level. An example of an insignificant aptitude is numerical (N) for a ditch digger. This is the only categorical elimination that the job analyst makes. From then on, their ratings become a matter of degree, aptitude by aptitude, comparing relevant job tasks to each aptitude level in an effort to make exactly correct ratings. OIS information development needs to parallel this procedure, though not with the same exactness because it will cause problems as previously discussed.

IDENTIFICATION

The first step for OIS developers is to identify the aptitudes. The idea is that once the important tasks have been identified, they can be compared to the aptitude benchmarks and rated for the appropriate level. Sometimes, the use of an aptitude in a job is quite apparent (i.e. numerical (N) for accountant.) In most cases, however, they are not as obvious. The procedure to follow for identification is discussed below.

To identify the aptitudes properly, the job information must be divided into the important tasks. Important tasks are most readily denoted by the last three digits in a six digit DOT code. The numbers comprising the last three digits are called functions and are explained on page 73 of the Handbook. Although a job will contain other tasks, all those tasks synonymous with the functional words indicated by the code number are considered to be the most important. Performance of job tasks can require the use of multiple aptitudes to accomplish them. (Task: "Analyzes interest rates and writes reports" involves both numerical and verbal ability.)

Consider the job of Secretary 201.368 as a working example of this task grouping aptitude identification system. First, divide the job into its important tasks based on the last three digits of the DOT code. In order of function, the tasks break down something like this:

3-Compiling

On page 74 of the Handbook, note the definition of compiling. Some compiling tasks are:

-Schedules appointments

-Reads and routes incoming mail

-Takes dictation

-Composes and types correspondence

-Files records

These duties all relate to gathering, collating, or classifying information.

6-Speaking-Signaling

On page 78, note the definition of speaking-signaling. Some speaking-signaling tasks are:

-Greets and gives information to visitors

-Receives and transfers telephone calls

8-No Significant Relationship to Things

The code of 8 for either Data or Things implies that their relationship to these functions is not significant. The code of 8 for Data or Things in such cases would cover over other less important tasks of the job. This practice in the Third Edition of the DOT is called masking. Masking does not mean to imply that there is no use of the function. Therefore, to ensure that all aptitudes are explored, it is important to look at job tasks in the description to see what, if any, involvement of masked functions there could be. In our example, Things functions are masked. It is empirically clear, however, that at least one task requires the use of aptitudes related to working with things as illustrated below:

Task	Aptitudes
Typing--	finger dexterity (F), motor coordination (M)

Note that an important clue to determining which aptitudes are present in a job has clearly been established, insofar as there is a link between functions (.368) and aptitudes (G,V,N,S,P,Q,K,F,M,E,C). The link is a superficial correlation that exists between them when the tasks of a job are arbitrarily divided into their mental and physical aspects. This correlation is easily used to identify what aptitudes might be present. Consider the Data and People functions as largely mental and the Things functions as largely physical. Consider aptitudes G,V,N,S,P, and Q as largely mental and K,F,M,E, and C as largely physical. (Remember, these divisions are completely arbitrary. As previously stated, the correlation is quite superficial. There is obviously overlap when a mental operation results in a physical act. Still, it is a useful means to help identify which aptitudes are in play in the job tasks. In addition, there is absolutely no relationship between the function code number and the aptitude rating level.) To illustrate this method, take the task grouping for the compiling function.

Function	Task	Aptitude	Levels
Compiling	Schedules appointments	G	
	Reads and routes incoming mail	V	
		Q	
	Takes and transcribes dictation	K	
	Composes and types correspondence	F	
	Files records		

To identify aptitudes, take an objective approach. Consider the physical and/or mental aspects of each task in the task group. To illustrate: Schedules appointments is largely a mental exercise. Common sense tells us it involves reasoning and judgement. These are synonymous with general learning ability--G. It is not necessary to look for intelligence again because it's already identified. From now on, concentrate on identifying other aptitudes. Another task, composes and types correspondence, is both physical and mental. Composes is largely mental. It requires understanding words, and language comprehension. These are synonymous with verbal ability--V. Types correspondence has previously been shown to be a largely physical task. Typing involves the fingers--F and it involves viewing draft copy and operating the keys to transcribe what is seen. This is coordination of the hands and/or fingers with the eyes--K. The one aptitude which is completely obvious is Q--clerical. A necessary ingredient to identification of aptitudes is the common sense of the developer which is apparent in the illustration. The definitions of the aptitudes in the Handbook are also helpful for relating aptitudes to tasks because they provide synonyms useful for making aptitude-task comparisons.

RATINGS

After the aptitudes have been identified, they need to be rated according to the aptitude levels in the Handbook for Analyzing Jobs. (The discussion of assigning aptitudes as selectors later on will clarify the need for this step.) The way the job analyst would use them has been shown to be quite objective, comparing one task at a time to the benchmarks to achieve the highest possible rating. This would not benefit information development even if it could be done that way for OIS purposes. Developers cannot rate each task because they do not have the advantage of on-site analysis which provides information on time of involvement for the major tasks. Time of involvement is a key parameter for giving precedence to one aptitude rating over another. Since it cannot be done as the job analyst does it, developers must rate the aptitudes as a group. This is less technically accurate, but turns out to be a more appropriate method for benchmarking aptitudes in an OIS system.

Consider the following illustration:

Function	Task Group	Aptitude	Level
Compiling	Schedules appointments	G	3
	Reads and routes incoming mail	V	3
		Q	2
	Takes and transcribes dictation	K	2
	Composes and types correspondence	F	2
	Files records		

The explanation of the aptitude ratings in this illustration will help explain the rating procedure. As aforementioned, when <u>identifying</u> aptitudes it is proper to look at separate tasks. When <u>rating</u> tasks, however, compare the <u>whole task group</u> to the benchmarks of each aptitude that was identified. The benchmarks are not as overwhelming as they seem. A quick way to zero in on the proper rating level is to always compare the group of tasks to level three first. The reason is two-fold. First of all, because level three is the median aptitude level, it is logical to expect that most ratings will fall there. Thus, the search for the appropriate level will often begin and end with this step. Secondly, it divides the five levels of aptitudes in half. An overview of the level three benchmarks will more often than not indicate whether the rating is above or below the median, thus narrowing the search.

Keeping this in mind, look at level three for the aptitude G beginning on page 234. (The letters and numbers are merely a system of identifying each benchmark for the aptitude (G), in its level (-1), and its number in that level (:6).) Go right to level three (page 238). A look at some of the examples would reveal that, in this case, there is an exact benchmark comparison G-3:6. No need to go further. The compiling group of tasks has pinpointed the rating level for G. When scanning the benchmarks for a level, it is useful to try to find exact matches. It makes comparison much easier. Now look at level 3 for verbal ability (V). It is apparent that both V-3:1 and V-3:4 apply. The verbal aptitude rating for this job is 3. Look at level three for clerical aptitude (Q). This is a difficult decision. The average does not seem to be just right. At the same time it is difficult to know whether to go up or down. There are two considerations. One is that this is one of four aptitudes in which speed is considered an important distinction between levels. (The others are N, K, and F.) The other consideration is that the aptitude is clearly relevant to the occupation. Considering both of these, it would be logical to look at level 2. Q-2:1, Q-2:11, and Q-2:13 all easily justify this level. The aptitudes K and F are next. A look at level three for K shows that it is at least this high. K-3:22 is proof of that. In level 2, K-2:1 is a good comparison. A short cut can make rating F easy. Since K, the ability to coordinate eyes and hand or finger movements, is level 2, check level 2 for finger dexterity (F) right away. It's not fool proof, but works more often than not. F-2:11 should not be conclusive.

Now we could go on to the next task group, speaking- signaling, and identi and rate the aptitudes for those tasks. In this case, however, there is no real need. The only significant aptitudes are mostly mental as is easily seen. It is obvious that the aptitudes which apply are G and V.

Because of the relative simplicity of these tasks, ratings would not be greater than those we already have. The masked job tasks have already been rated.

MODIFICATIONS FOR ACTUAL PRACTICE

I mentioned earlier that "there is absolutely no relationship between the function code number and the aptitude rating level." In a literal sense this is true. Compiling, function code 3, may have tasks which require aptitudes of levels 1, 2, or 3. It depends on the tasks. Yet, as one can see in the previous explanation of ratings, once the aptitudes for the highest function, compiling, were rated, no aptitude was found to be at a higher level. The reason is this. When one function code number is obviously higher than the rest (3 vs. 6 in the example), the ratings for the aptitudes all three functions have in common will not be higher than the aptitude ratings for the higher functional code number. This explains why we do not have to go beyond rating the aptitudes identified in the compiling tasks. Remember though, where aptitudes are not in common, they must still be rated. Another modification to remember is that the usual number of aptitudes assigned should not go beyond six. This "rule of thumb" is derived from the aptitude identification procedure combined with the previously mentioned highest function-highest aptitude relationship. Basically, it is not as arbitrary as it appears because the tasks grouped for the highest functional codes are <u>the</u> most important tasks for the job. It follows, therefore, that the most important aptitudes will be those involved with performing those tasks. In many cases, the number of important aptitudes identified and rated using this procedure will not exceed six because few jobs have the variety of high level tasks needed to warrant more than six important aptitudes.

The gray area of "not too exact but not too general" is, as a result, also better defined. Though a lower limit has not been established, steps have been outlined in detail to ensure that it is not exact to the point of being a limiting factor. In detail, the effect this identification and rating procedure has on ratings is analagous to the "averaging" of aptitudes which is done in the Worker Traits Profile of Volume II of the DOT. The averaging is achieved by rating task groups, not separate tasks. It is here that information developers must take great care when comparing the grouped tasks and find justification for a high rating for that task. It is not possible to do the same for the whole group unless the majority of the tasks in the group justify it. In fact, the group has been averaged.

Before the discussion of aptitude assignment will make sense, it is important to take a look at how far this explanation has come. What has been accomplished toward the overall objective of assigning useful aptitudes? In a very real sense, we have seen that it is necessary to establish a precise methodology to ensure subjectivity! Why? Because without a doubt the users of OIS systems will take a subjective approach to their choice of selectors--particularly aptitudes. Unless they are experts about themselves there is literally no other way for them to relate to the system. Unless the possibilities resulting from subjective use of selectors are covered, the system will fail the user. Aptitude selector assignment must be done using precise methodology, though, to ensure that mistakes because of their subjectivity are rejected.

With this understanding in mind, how has this methodology helped to bridge the gap between the subjectiveness of the user and the precision of the system?

1. A procedure for grouping important tasks and identifying aptitudes involved with carrying out those tasks has been detailed. This is necessary because aptitudes associated with the major groups of tasks are the ones to look at for assignment purposes. Marginal aptitudes serve no useful purpose.

2. A procedure for rating aptitudes associated with task groups, including guidelines and modification for use in actual practice, has been outlined in detail. Rating aptitudes is necessary so that decisions as to which ones to actually assign as selectors can be made. Without ratings, the relative importance of each aptitude to the job cannot be known.

The reasoning behind the development of these procedures has been detailed. They are aimed at eliminating exactness and generalization, thereby ensuring the subjectivity the user needs while ensuring the correctness of the aptitude assignments; hence, the necessary distinction between occupations.

APTITUDE ASSIGNMENT

Now that a methodology for identifying and rating aptitudes has been established, the reasoning for assigning those aptitudes must also be established.

Though not as technically complex as identification and rating, assignment is nonetheless troublesome because it involves significance. Significance was touched upon early in the discussion. Reference was made to the literal interpretation of the subject. The larger the percentage of the work force capable of acceptable performance, the less significant the aptitude becomes. From this it can be reasoned that there is some clear cutoff below which an aptitude is not important and above which it is. This is only one side of the coin, though. The other side of the coin reads: the significance of any single aptitude rating for consideration as a selector will vary according to the ratings given to all other aptitudes. These two statements essentially define the two extremes that exist. (The following discussion will add additional clarification to rate the aptitudes.)

The aptitude profiles below are indicative of the two sides of significance.

.280

1. G V N Ⓢ Ⓟ ~~Q~~ K Ⓕ Ⓜ ~~E~~ ~~C~~

3 3 3 2 2 4 3 2 2 5 4

.887

2. G V N S P Q K F M E C

4 4 4 4 4 4 4 4 4 4 4

The most important aptitudes in the first illustration are circled. The non-significant ones are crossed out. This example is obviously assigning aptitudes via the first side of significance. There is a clear cut case for four of the ratings. A brief overview as to the correctness of this approach using two previously stated procedures will help to clarify it. The first is the arbitrary identification procedure of dividing tasks and aptitudes into mostly mental and mostly physical.

Mostly Mental (D=2)	Mostly Physical (Things=0)
G=3	K=3
V=3	F=2
N=3	M=2
S=2	E=5
P=2	C=4
Q=4	

The second is an extension of the highest function-highest aptitude relationship when two function codes are nearly at the same level. When it is necessary to assign additional aptitudes (up to 6) to ensure that aptitude selectors correctly reflect the important tasks, assign additional selectors from the mental or physical side least adequately represented by the highest aptitude ratings. In the example, the physical are adequately represented. To ensure the availability of this occupation to the potential choices of a subjective search, it is reasonable to assign V and N thereby attaining the maximum of six selectors.

Information development in Wisconsin has dropped the use of the aptitude G (general intelligence) as a selector. This was done because it was felt that most users would automatically select it, therefore neutralizing its usefulness. Dropping G is not troublesome to the operation of the system, as V, N, and S are technically all components of G. Consequently, assigning V, N, or S aptitudes serves the same purpose as assigning G. In cases where V, N, and/or S would not be assigned, G would not be assigned either. With G gone, the aptitude assignment procedure is somewhat simplified.

The second profile is indicative of a situation where the second side of significance would apply. Since all aptitudes are rated at the same level, there is no cutoff point. The aptitudes have to be assigned strictly according to their relative significance. Relatively significant aptitude assignment is directed first by the functional code and within that functional group by aptitudes identified for those tasks. Insofar as the function code 7--Handling--is largely physical, the important aptitudes for this job are K, F, M, E, and / or C. By reviewing the task-aptitude relationship as we did in the example of Secretary, one or all might be considered significant for the occupation.

In this case, we are not rating any mental operations. The low skill level of the job's function code (.887) indicates that little mental ability is needed to perform the phyical tasks. As the definition for Handling (7) indicates, there is "little or no latitude for judgement..." The inference is that job tasks are highly regulated by instruction. If some of the mental aptitudes were assighed, this job would be included in such a search. The incorrectness of having this job in the search which could include the higher-skilled occupation (.280) is obvious.

The aptitude profile between these two profiles would be one that had one or two aptitudes that were clearly superior and the rest deadlocked at some level. Divide the job up into its mental and physical aptitudes. Then look at the DOT code. There are a raft of possible combinations. In general, though, they are all easily resolved by considering the highest function--highest aptitude relationship first. If this cannot resolve the deadlock, it will be because the DOT has two function codes that are nearly at the same level. In these cases, apply the least adequately represented procedure discussed above.

GUIDELINES FOR ASSIGNING INTEREST SELECTORS

The interests used in WOIS as selectors are those used in the Department of Labor's DOT Job Analysis Methodology. Three adaptations have been made to suit the computer search system in WOIS.

First, WOIS has eliminated the bipolar feature used in the DOT Methodology. Bipolar refers to the concept that a preference for one type of work activity implies a dislike for its opposite. For example, a preference for working with people implies a dislike for working with machines or data. This concept was entirely too difficult to work with. The developers had difficulty making hairline distinctions while the user probably couldn't make them. As it now stands, one can equally prefer working with people and working with data.

Secondly, the interests were divided up into two groups. One group contains those interests dealing largely with data and things. The other deals with people relationships. This was done to facilitate the user's decision making.

Thirdly, the interests were reworded in an attempt to make them easier to understand and relate to. Some need further modification.

PROCEDURE FOR ASSIGNING INTERESTS

To assign interests properly, the developer must have access to the Department of Labor's Handbook for Analyzing Jobs. The section in interests begins on page 317. Another section of the Handbook that a developer will need to refer to is called Worker Functions beginning on page 73. There are three steps to the interest assignment process.

The first step is to identify the major worker functions. The major worker functions are an important part of the interest assigning procedure because the interests important to preferring a type of work are those linked to the major functions. The major worker functions for any job are those denoted by the last three digits of a six digit DOT code. Those three digits indicate the highest significant level of involvement with data, people or things.

The second step is to relate the major functions denoted by the DOT code to the tasks in the job description. As will be seen, this is a necessary step because specific interest cannot be determined from the functions alone. The procedure is to compare sentences describing tasks in the job description to the benchmarks accompanying the worker functions beginning on page 73 of the Handbook. This procedure will result in some (one or several) task sentences from the job description that are synonymous with the major functions.

The third step is to relate the task sentences representing each major function to the interests. The procedure is to compare them to the benchmark tasks for interests beginning on page 317 of the Handbook. The result will be the key interests associated with a given job.

To illustrate this procedure, follow the example below:

> DRESSMAKER (any ind.) 785.361. Makes women's garments, such as dresses, coats and suits, according to customer specifications and measurements: (1) Discusses with customer type of material, pattern, or style to be used in making garment. (2) Measures customer to determine modification from pattern, using tape measure. (3) Positions and pins pattern sections, such as collar, sleeve, or waist on fabric, and cuts fabric with scissors following pattern edge. (4) Pins or bastes together fabric parts in preparation for final sewing. (5) Sews fabric parts by hand or operates single-needle sewing machine that joins fabric parts to form garment. (6) Sews felling stitch in hem of garment by hand to conceal thread. (7) Presses garment, using hand iron, to smooth seams and remove wrinkles [Presser, Hand (any ind.)].

<u>Step One</u>: Identify major functions.

Refer to the Handbook, page 73, for meaning of code numbers .361.

3 = compiling in data hierarchy
6 = speaking-signaling in people hierarchy
1 = precision working in things hierarchy

Note: an eight (8) in the last three digits of a six digit code means no significant relationship of the tasks in a job to that hierarchy.

<u>Step Two</u>: Relate major functions to task sentences in job description.

Refer to the Handbook, page 73, for functional definitions and benchmark tasks. Compare task sentences in job description to benchmark tasks accompanying each major function to identify tasks synonymous with major functions.

Task sentence synonymous with compiling is #1. Pertinent benchmarks under compiling are those with infer the collection and organization of information such as: "Collects background information on persons who apply for credit. . ."

Task sentence synonymous with speaking-signaling is #1. Pertinent benchmarks under speaking-signaling are those which infer a simple exchange of information such as: "Answers telephone to give information about. . ."

Task sentences synonymous with precision working are #'s 2,3,4,5,6. Pertinent benchmarks are those which infer complete responsibility for attainment of standards and the use of considerable judgement. Examples: "Locates and marks reference lines. . .", "Lays out, cuts, shapes, and finishes. . .", and "Measures, marks and cuts. . ."

Note: The proper use of this benchmark concept is to draw a comparison between the benchmark's relationship with the function's definition and the job task's relationship with the function's definition. If this comparison shows the two relationships to be similar, then the job task is representative of the function.

Step Three: Relate the job tasks from Step Two to the interests.

Refer to the Handbook, page 317, for interest factor benchmarks. Draw a comparison between these benchmarks and the job tasks identified in Step Two. As one follows the illustration below, it becomes obvious that interests pertinent to a job cannot be associated with major functions but must be associated with the tasks that expand on them. One job task may also encompass more than one interest. Some job tasks may not relate to any interest well and should not be assigned one. Further, there are some interests that relate better to the job as a whole than to any single task.

Note: The proper way to use the interest benchmarks is to identify the trend or commonality between them. Unlike the major functions, the interests do not have an expanded definition and must be studied carefully by the developer to insure correct interpretation.

Job Task	Interests (WOIS # - Handbook #)	Benchmark
1	201 - 1b	A preference for communicating with others is clearly a necessary ingredient. The fact that there is an exchange of information is important.
2	201 - 1b	To communicate information others do not have to supply the data. Data may come from an inanimate source but is being translated or otherwise reported for use by another.
3,4,5,6,7	207 - 4b	Clearly, a worker should have a preference for working with a technique or method and with equipment.
1,2,3,4,5,6,7	209 - 5b	The benchmarks suggest that the worker should have a preference for seeing the results of their efforts. That sort of job satisfaction is obviously present here.

The interests that should be assigned to this job then are:

201 - 1b A preference for activities concerned with the communication of data.*

207 - 4b A preference for activities carried on in relation to processes, machines and techniques.

209 - 5b A preference for activities resulting in tangible, productive satisfaction.

A final check on the interests assigned as a result of this procedure is the total number that are assigned. As a rule of thumb, the number of interests assigned to a job should rarely exceed four. Very few jobs have enough diversity in their tasks to warrant the assignment of more than four interests. As a matter of fact, there are not many jobs to which four interests can be assigned.

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*This interest wording is from the Handbook for Analyzing Jobs.

Guidelines for Assigning Education and Training Selectors

There are twenty-seven education and training selectors that can be used to access job information in the WOIS system. Information development strove to construct an average picture of the hiring requirements for a given job. There are many resources that can be used to gather education and training information. Those listed below are the most frequently used by WOIS information development staff.

Resources

Dictionary of Occupational Titles, Vol. II

The worker traits arrangement beginning on p. 214 of this volume was used frequently. The proper worker trait group is determined by the last three digits of a six-digit DOT code. Since many of the DOT codes belong to more than one worker trait group, the proper group must be identifed by seeing if the job is listed as being part of that group. A word of caution. The narrative information and qualifications profiles represent an average picture of all the jobs listed for a specific worker traits group. Consequently, this information is best used as a parameter against which more specific information can be compared to get a handle on its legitimacy. A developer should realize that in worker trait groups where there are comparatively few jobs the average picture presented is more true of each job than in groups that cover a large number of jobs. Consequently, in smaller worker trait groups, the developer can place more weight on the information as it pertains to individual jobs than in larger groups.

Wisconsin Directory of Licensed Occupations

This is simply a listing of all the occupations in Wisconsin that need a license or certification from the state to be performed. The education and training requirement for licensure or certification is the source on which information development based its education and training selector assignments for these jobs. However, licensing and certification criteria undergo continuous revision and must be checked out thoroughly by contacting the appropriate licensing agency. All the possibilities listed for meeting licensing or certification requirements were recorded as selector assignments.

Vocational-Technical and College Placement Data

Vocational-technical and college placement offices produce statistical information as to the type of jobs graduates from their various programs have been placed in. This statistical data has proven very useful for establishing minimum entry requirements for jobs that require post-secondary education.

Employer Contact

Information development used a system of contacting employers by phone to get their minimum entry requirements for the different jobs. This was done for every occupation but was particularly useful for the many semi-skilled and unskilled jobs in WOIS for which very little information is available. In general, developers tried to get data from employers of different size, geographical location, and product line.

Newspaper Want-Ads

This source of data is very useful, particularly for the semi-skilled and unskilled occupations. It has two drawbacks as a major reference, however. One is that the only information that can be attained is for jobs being advertised. Secondly, to use this source properly means subscribing to several major newspapers around the state and monitoring and filing their want-ads. This is a tremendously time-consuming task and with limited staff is not practical. A small project was undertaken to see if such a scheme would prove beneficial if staff time were available. WOIS development found that a fairly comprehensive, geographically specific data base could be developed. Particularly useful contributions to our information base are geographic location, employing industry, an idea of demand, current wages, and hiring requirements.

Job Service Placement Data

Contacts with local Job Service offices often provide specific information as to hiring requirements for the job orders they have received from employers.

Miscellaneous Resources

There are several publications that contain training and education requirements on certain jobs or groups of jobs. Examples are listed below.

The Occupational Outlook Handbook provides training and educational information on several different levels. They use specific jobs, occupational areas, groups of skills and an industrial organization. Its greatest asset for WOIS development is that it provides a way to compare state hiring requirements to national trends.

The Occupational Analysis Field Center publishes a wide range of occupationally relevant materials. Most of these are generated from original job analyses of occupations by DOT industry arrangement. To a lesser extent they also publish brochures on individual occupations. All of these provide excellent detail on education and training requirements.

Many agencies, professional associations and unions publish information about occupations that concern them. A great deal of data is available about health careers and much of it comes from these types of sources. Health Careers and Job Descriptions for Hospitals are two such publications. The Career Education Directory links vocational-technical programs to occupations. Another such publication is called Vocational Education and Occupations. In addition, there are large numbers of publications from various sources providing occupational information. Two examples are The Encyclopedia of Careers, and WISC. The Wisconsin Division of Apprenticeship and Training also provides a great deal of specific information on training and education for apprenticeable jobs.

Selector Assignment Procedures

The primary guideline is this question. Relative to the current labor market, what would be the apparent value of the training and education alternative in terms of making a person more employable for a given job? This question recognizes an important point and addresses a key issue. The important point is that this group of selectors is WOIS's closest tie to the everyday operation of the labor market. The degree to which the labor market can be termed "loose" or "tight" is highly correlated to just what education and training requirements are acceptable for employment. Obviously, primary hiring requirements won't change. Secondary requirements, however, those identified with the marginally prepared labor force, frequently become acceptable in a tight labor market or unacceptable in a loose labor market. This leads into a key issue concerning the responsibility of a developer. Is it their responsibility to report what is found in the aforementioned resources? Or, is it their responsibility to make judgements and modify what is found? WOIS information developers took the latter position largely because of the labor market characteristics previously mentioned.

To answer the question the guideline poses requires the consideration of several criteria. First, the different methods of preparing for an occupation must be identified. This can be done using the resources previously listed.

After the alternative training and education paths have been identified, the developer must determine which ones are legitimate. These criteria can be applied: (1) How often is the training and education found. (2) Is it usually required or just preferred. (3) What is the source? Is the source current? (4) If there is doubt about a method, contact some employers and ask them if they would consider employing a worker so prepared.

The final determination is up to the developer. Only those training methods that are viable in the face of current labor market conditions and job outlook should be reported.

Recording Selectors

Great care must be taken when recording the selectors which reflect the training and education requirements. Developers must keep in mind that the mechanical operation of the system is one of elimination. A command to add a selector such as high school diploma required or preferred will place all jobs so coded into a search. This command or user preference should eliminate all jobs that require more than high school training. Consequently if a college degree in economics is a requirement, the high school diploma leading to college should not be recorded. This is a typical pitfall that is easily overlooked. A developer might find requirements like: A high school graduate who has a four-year college degree in economics is preferred. Or, will consider a high school graduate with a combination of post-secondary course work in economics and several years experience in a job closely related to the field of economics. Though high school stands out, it must not be reported as a selector for the job because the job will show up in a search where only the high school selector is chosen. It can easily be seen from this example that when selectors are being recorded the search process must be kept in mind.

JOB CLUSTER SELECTOR ASSIGNMENT GUIDELINES

To assign selectors to jobs from the three clusters in WOIS requires a developer with considerable knowledge about occupational information and classification and resource materials. (A usable set of guidelines for developers without background in these areas would be too voluminous and more like a training manual than a guideline!)

The three clusters are: Characteristics About Industries; Characteristics About Occupations Within Industries; and Areas of Work. These clusters were originally designed by the U.S. Department of Labor and U.S. Department of Education. They are rigid schemes, allowing a job to belong to only one category within a cluster. For this reason, these guidelines stress the need to adapt these clusters for use in WOIS to allow for what I have termed "visibility."

Visibility refers to how the system is used. While developers can use published information about each cluster to assign selectors, users approach the system by referring to personal interests and experiences. Examples: They may compare ideas about parents' or friends' jobs to the clusters. Their choice of selectors could also be influenced by part-time jobs, television shows, a book, news events, movies, or hobbies. Whatever the influence, we can be reasonably certain that the connections they make between their ideas and the clusters will be superficial, i.e., visible.

In practice, it means exposing a job beyond the rigid categories of the clusters WOIS has adopted for use. This does not exclude the use of published information such as category definitions, but it should make developers aware that they must expand upon those materials. As a practical matter, the developer should give a job enough visibility so that the odds of its being exposed to the user are improved.

The following guidelines are recommended to ensure the system of clusters is user-oriented. These guidelines contain references to use when they apply. A major portion of them, however, is aimed at directing the thinking of a developer toward how the system works. This in turn should guide a developer's assignment of the cluster selectors.

Characteristics About Industries

These are the fifteen USOE clusters. References that can be used to relate jobs to employer(s) and subsequently to cluster(s) are:

- Dictionary of Occupational Titles, Third Edition, industry designations
- Occupational Outlook Handbook
- Categorization scheme in the Wisconsin Manufacturers Guide
- Standard Industrial Classification, called the SIC industry code
- Newspaper want ad classification

These references will provide a developer with information about usual employing industries. The developer should be aware, however, that most jobs could belong to many industries. Linking these industries to many USOE clusters will destroy the selective search feature of WOIS. A proper balance can be drawn in situations where many clusters seem to fit. Think in terms of how the system is used. Answer the question: Which clusters will most adequately reflect the employers of this job? The main criteria is visibility. There should be a visible link between the employing industry, the job, and the cluster that a user can see. Even though a user's selector choices are made without a specific job in mind, there is undoubtedly some positive feedback when they see the kind of jobs in their search. The link can be such things as physical job location (factory, office, outdoors,) subject area (marine science, aeronautics, agriculture,) or kind of work (machine operation, manual work, typing, driving.) Combinations are possible and will result in exposure of a job in more than one category and are proper so long as they are visible enough.

A good example is secretary. Employers in all USOE clusters hire secretaries, but its most visible link is to the business and office cluster. Secretary in business and office provides positive feedback because the link is strong. Secretary found in manufacturing does not have a strong visible link. That is, it probably won't fit the user's pattern of references, i.e. the reason(s) the manufacturing cluster was chosen. The visibility factor is important for another reason which is also illustrated by this example. That is, with a maximum of 36 selectors, assigning a job to 15 of these takes up room that could be used for other selectors.

Characteristics About Occupations Within Industries

This clustering scheme is taken from the Occupational Group Arrangement (OGA) found in the Dictionary of Occupational Titles, Third Edition.

It can be seen in its entirety beginning on page 1 of Volume II of the Dictionary. The first three digits of any DOT code stand for the category, division, and group that a job has been classified into. WOIS uses the category and division numbers in its selector scheme. Though much of it has been reworded, these WOIS selectors are compatible with OGA.

The first digit of a DOT code is the DOT category number. There are nine categories in both the DOT arrangement and the WOIS scheme. In WOIS, selectors in all caps designate category selectors. Those following the category selectors are division selectors. Multiply the first digit of any DOT code by 20 and the result is the corresponding WOIS category selector. There is no uniformity in the coding structure between the DOT and WOIS at the division selector or second digit level. When looking for a DOT division code's counterpart in WOIS, one must compare the wording accompanying each one. For example, take a DOT code that begins with a 23. The 2 is the OGA category for clerical. Multiplied by 20, it gives 40 or the corresponding WOIS category selector. To find out what the division number 3 corresponds to, one must look it up in DOT Volume II page 1. It reads information and message distribution. Compare that wording to the WOIS division selectors under 40 and for 44 it reads the same way. Thus the DOT division code 3 corresponds to WOIS division selector 44.

To assign these selectors to jobs then, the first two digits of a six digit DOT code is the place to start. Always assign the WOIS counterpart to the DOT occupational category and division unless the DOT has them assigned to "miscellaneous" or "all other" type categories and/or divisions. As a rule, the category selector 180-miscellaneous occupations was not assigned to any job. It is simply a bad category to be used as a selector. Further, one should avoid using division selectors that have similar wording. Two examples are 35 - miscellaneous professional and 110 - other processing occupations. These divisions in WOIS can be reworded. Refer to Recommendations for Improving Selectors.

Once the selectors that are counterparts of the OGA code are assigned, assign other selectors that have visible links between themselves and the occupation. The DOT, Vol. II, cannot be used to do this because it only puts a job into one category. Some background on the OGA scheme, however, will help the developer identify other visible criteria that could be used to assign a job to other WOIS categories and divisions. Read the section on the OGA in the DOT, Third Edition, Vol. I, p.XVII. The authors of the DOT code jobs according to the criteria they feel have predominance. The material, type of service, type of job, kind of product, type of process, technology involved, and so on are all considered.

Information developers should consider these same criteria to determine whether other visible links exist. If they do exist, additional selectors should be assigned to the job. The necessary criteria to make these determinations are found in the job description. An example is extruder operator, plastics, 557.782. According to the code, this job has been categorized as processing (the first 5) and the division is processing chemicals and plastics (the second 5.) These translate into WOIS selector numbers 100 and 106. Additional links can be made to other categories and divisions by reading the description. Without getting into detail, another WOIS category 120-machine trades has a visible link. A rewording of 129-other machine trades (machining plastic, leather, wire) would allow a developer to assign another division selector as well.

Areas of Work

This clustering scheme is also from the DOT. It can be found on page 214 of the third edition of the DOT, Volume II. It is not a clustering scheme designed for jobs. The Areas of Work is a scheme designed to organize the 114 worker traits groups into a more manageable index of 22 categories. To back up a bit, worker traits groups are an arrangement of jobs with the same or similar last three digits of a six digit DOT code. Moreover, the subject matter of the job is also considered so that a DOT code like .281 can be found in more than one worker trait group and consequently in different Areas of Work. For example, .281 belongs to six different worker traits groups which in turn are organized under four different areas of work.

A closer examination of the areas of work will reveal that they incorporate aspects of both the Characteristics About Industries and Characteristics About Occupations clustering schemes. In fact, the areas of work constitute a duplication of effort. I recommend that they be dropped as selectors in WOIS.

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MILLWRIGHT

OCCUPATION DESCRIPTION:
THE MOVING AND INSTALLING OF HEAVY INDUSTRIAL MACHINERY IS THE WORK OF THE MILLWRIGHT. MILLWRIGHTS MUST KNOW HOW TO DISMANTLE AND REASSEMBLE LARGE AND OFTEN COMPLEX EQUIPMENT. MILLWRIGHTS ASSEMBLE AND INSTALL EQUIPMENT SUCH AS CONVEYORS, SHAFTS AND TRAM RAILS. THEY OFTEN CONSTRUCT FOUNDATIONS AND METAL FRAMEWORK ON WHICH MACHINERY IS MOUNTED.

MILLWRIGHTS EMPLOYED BY COMPANIES MAY HAVE PERIODS OF UNEMPLOYMENT. OFTEN, THEY MUST TRAVEL TO FIND WORK. THE WORK OF A MILLWRIGHT IS CONSIDERED HAZARDOUS. THEY USE PROTECTIVE DEVICES SUCH AS SPECIAL SAFETY BELTS, HATS, GOGGLES AND SHOES. MOST MILLWRIGHTS ARE MEMBERS OF UNIONS AND UNION CONTRACTS USUALLY PROVIDE INSURANCE AND VACATION BENEFITS.

91
MILLWRIGHT

4	CONSTRUCTION
120	MACHINE TRADE OCCUP.
123	MECHANICS AND MACHINERY REPAIRMEN
200	OCCUPATION DEALS WITH THINGS & OBJECTS
207	INVOLVES NON-SOCIAL ACTIVITIES
209	OCCUPATION YIELDS TANGIBLE RESULTS
221	UNDERSTAND WORDS/IDEAS & USE THEM EFFECTIVELY
222	PERFORM ARITHMETIC QUICKLY AND ACCURATELY
223	COMPREHEND FORMS IN SPACE; UNDERSTAND PLANE & SOLID OBJ.
224	PERCEIVE PERTINENT DETAIL IN OBJECTS/PICTURES/GRAPHS
226	ACCURATE/RAPID EYE-HAND-FINGER MOTOR COORDINATION
227	MANIPULATE SMALL OBJ. IN FINGERS RAPIDLY/ACCURATELY
228	MOVE HANDS EASILY AND SKILLFULLY
240	LESS THAN HIGH SCHOOL GRADUATION
241	H.S. GRAD. REQUIRED OR PREFERRED
245	1 YR. VOC.+TECH. TRAINING REQ'D. OR PREF'D.
260	APPRENTICESHIP
264	AT LEAST 4 YEARS SPECIAL VOCATIONAL TRAINING
266	ON THE JOB TRAINING USUALLY REQUIRED
273	ESSENTIAL EXPERIENCE IN SIMILAR JOBS
304	OCCU. IN TRADES, COOKING, AND CRAFT WORK
349	EVALUATING INFO FROM MEASURABLE OR VERIFIABLE FACT
351	ATTAIN PRECISE LIMITS, GOALS, STANDARDS OF ACHIEVEMENT
361	MOSTLY INSIDE WORK
367	HAZARDOUS CONDITIONS USUAL OR FREQUENT
370	35-40 HOUR WEEK NORMAL
403	LIFT TO 100 LB., LIFT/CARRY 50 LB. OR MORE
405	INVOLVES CLIMBING AND BALANCING
407	INVOLVES REACHING, HANDLING, FEELING
412	INV. BOTH STANDING & SITTING FAIRLY EQUALLY

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VETERINARIAN

OCCUPATION DESCRIPTION:
VETERINARIANS DIAGNOSE, TREAT, AND CONTROL DISEASES AND INJURIES IN ANIMALS. THEY PROVIDE BOTH MEDICAL AND SURGICAL CARE. THEY ALSO HELP PREVENT DISEASES BY VACCINATING ANIMALS. THESE INCLUDE DOGS AND CATS FOR RABIES, DAIRY HERDS FOR TUBERCULOSIS, AND HOGS FOR CHOLERA AND RABIES.

VETERINARIANS IN RURAL AREAS MAY WORK IRREGULAR HOURS AND SPEND MUCH TIME TRAVELING FROM FARM TO FARM. SOME OF THE WORK IS DONE OUTSIDE. SMALL ANIMAL VETERINARIANS USUALLY WORK REGULAR HOURS, BUT OFTEN MUST WORK WEEKENDS AND EVENINGS.

MOST VETERINARIANS WORK IN PRIVATE PRACTICE OR WORK IN ANIMAL HOSPITALS.

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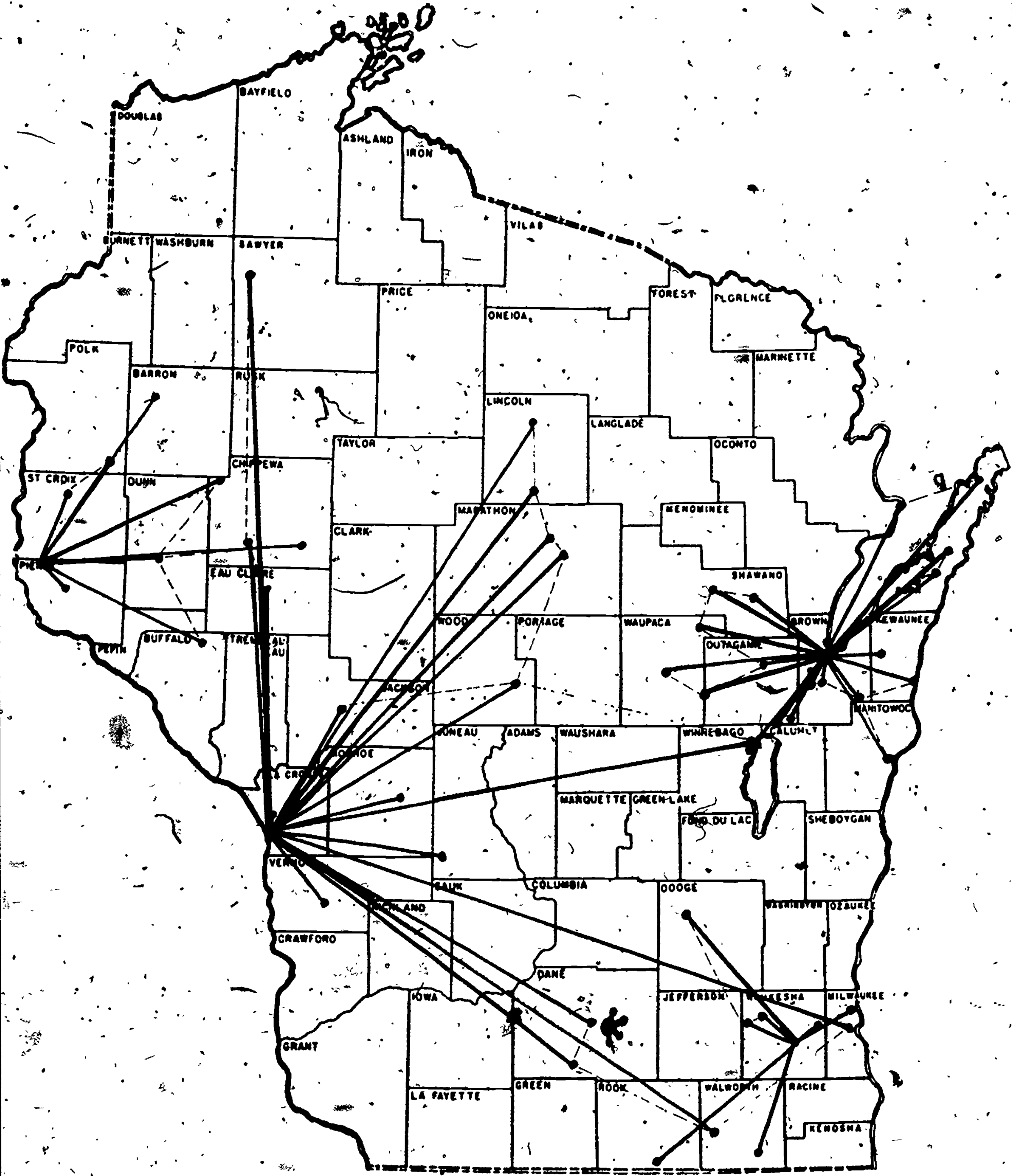
VETERINARIAN

1	AGRI-BUSINESS & NATURAL RESOURCES
8	HEALTH
20	PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS
25	MEDICINE AND HEALTH
203	ACT. OF SCIENTIFIC & TECHNICAL NATURE
206	INVOLVES HELPING PEOPLE - SOCIAL WELFARE
208	OCCUPATION RESULTS IN PRESTIGE/ESTEEM
221	UNDERSTAND WORDS/IDEAS & USE THEM EFFECTIVELY
222	PERFORM ARITHMETIC QUICKLY AND ACCURATELY
223	COMPREHEND FORMS IN SPACE; UNDERSTAND PLANE & SOLID OBJ.
224	PERCEIVE PERTINENT DETAIL IN OBJECTS/PICTURES/GRAPHS
227	MANIPULATE SMALL OBJ. IN FINGERS RAPIDLY/ACCURATELY
252	POST-GRAD. PROF. DEGREE REQ'D. OR PREF'D.
253	DOCTOR'S DEGREE REQUIRED OR PREFERRED
287	FROM 4 TO 10 YEARS OTHER THAN FORMAL EDUCATION
315	OCCUPATIONS IN MEDICINE AND HEALTH
344	NECESSARILY DEALING WITH PEOPLE BEYOND GIVE/TAKE INSTRUCT.
348	EVALUATING INFO FROM FEELINGS OR JUDGMENTS OF OTHERS
349	EVALUATING INFO FROM MEASURABLE OR VERIFIABLE FACT.
362	WORK BOTH INSIDE AND OUTSIDE
368	DIRT, DUST, ODOR, FUMES USUAL OR FREQUENT
372	WORKING OVERTIME IS NORMAL
375	WORK FREQUENTLY ON WEEKENDS
376	WORK FREQUENTLY AT NIGHT
379	WORK REQUIRES OCCASIONAL TRAVEL
402	LIFT TO 50 LB., LIFT/CARRY TO 25 LB.
407	INVOLVES REACHING, HANDLING, FEELING
409	INVOLVES ABILITY TO SEE CLEARLY
12	INV. BOTH STANDING & SITTING FAIRLY EQUALLY
420	LICENSE USUALLY REQUIRED FOR QUALIFICATION
422	EXAMINATION USUALLY REQUIRED FOR QUALIFICATION


DOUGLAS
BAYFIELD
ASHLAND
IRON
VILAS
BURNETT
WASHBURN
SAWYER
PRICE
ONEIDA
FOREST
FLORENCE
POLK
BARRON
RUSK
MARINETTE
LINCOLN
LANGLADE
TAYLOR
OCONTO
ST CROIX
DUNN
CHIPPEWA
MARATHON
MENOMINEE
CLARK
PIE
EAU CLAIRE
SHAWANO
PEPIN
BUFFALO
TREMPEALEAU
WOOD
PORTAGE
WAUPACA
BROWN
KEWAUNEE
OUTAGAMIE
JACKSON
MANITOWOC
JUNEAU
ADAMS
WAUSHARA
WINNEBAGO
CALUMET
MONROE
LA CROSSE
MARQUETTE
GREEN LAKE
FOND DU LAC
SHEBOYGAN
VERNO
SAUK
COLUMBIA
DODGE
WASHINGTON
OZAUKEE
RICHLAND
CRAWFORD
DANE
IOWA
JEFFERSON
WAUKESHA
MILWAUKEE
GRANT
GREEN
ROCK
WALWORTH
RACINE
LA FAYETTE
KENOSHA

APPENDIX IVA

Quickie Questionnaire 2

A quickie questionnaire is an easy way to use the Wisconsin Occupational Information System. This questionnaire will help you get a list of occupations from the computer terminal. You get this list based upon your own likes and dislikes.

Every occupation will have some things the same as other occupations and some things which are different. Based upon these things, occupations can be sorted into groups. This questionnaire will help you sort, based upon the following sets of things:

1. The physical demands of the occupation
2. Where the work is usually performed
3. The activities in which the worker is involved
4. The formal training requirements
5. The work environment

Read the following statements and examine the possible answers to complete each. Then, on the line to the right of each answer, mark

A if the answer is <u>true</u> for you
S if the answer is <u>not true</u> for you
? if you feel indifferent or undecided toward the answer.

Please read the directions carefully which follow the five statements.

<u>Statement 1</u>: I would be willing to work in an occupation which:

requires very little lifting, standing, carrying or walking ____400
requires lifting and/or carrying 100 pounds or more ____404
involves mostly standing ____410
involves mostly sitting ____411
involves considerable walking ____413

<u>Statement 2</u>: I would like an occupation in which the work is performed:

mostly outside ____360
mostly inside ____361
both outside and inside ____362

<u>Statement 3</u>: The activities involved in an occupation I would like should:

focus on working with people and exchanging ideas with them ____201
involve business contact with people ____202
involve close relationships with others especially in helping them solve their problems ____206
result in my receiving the regard and esteem of others ____208

focus on working with things and objects ____200
involve working with scientific and technical materials and equipment ____203
involve doing routine things which are well organized and have specific instructions ____204
allow me to be creative and to develop my own ideas ____205
focus on working with equipment and machines without much contact with others ____207
end in a definite result, as in the completion of a finished product __✓__209

<u>Statement 4</u>: (Please mark no more than one with A.) I am looking for an occupation in which the amount of formal education an employer would require is:

less than high school graduation ____240
high school graduation ____241
junior college, associate degree ____243
1 year vocational-technical training ____245
2 years vocational-technical training ____246
graduation from a four year college ____250
a doctoral degree ____253

<u>Statement 5</u>: I would be willing to work in an occupation in which I would:

be exposed to extreme cold and temperature changes ____363
be exposed to extreme heat and temperature changes ____364
work in wet and humid conditions ____365
be exposed to loud noise and vibrations ____366
be frequently exposed to hazardous conditions ____367
exposed to dirt, dust, odor or fumes ____368

O.K., you're finished.

Now, you can begin to enter your answers into the computer terminal. It is easy and fun to enter your answers, but be sure to follow the next instructions very carefully.

First, go back and look at each answer you marked with an A. Think about them, and then sort them as to which are the most important and which are not as important. Rank order them from most important to least important by placing a 1 next to the most important, 2 next to the second most important and so on.

You can now enter your answers into the computer terminal. You may have to get someone to start or restart it for you. Regardless, the computer terminal will print out:

(Computer types)	Which file?
(You type)	NOCC (and press the return key which may be marked return, CR, or New Line)
(Computer responds)	National Occupational Information Ready ?

The computer always puts a ? when it's ready for you to type; you must always press the return key when you have finished typing.

You can now enter your answer. Start by typing in all your S answers. You do this by typing S followed by the number next to each S you marked on the questionnaire.

For example,

(You type)	S340 S343.....S351 (press the return key)
(Computer responds)	(will respond to your entries, then will finish by printing the number of occupations remaining in your search.)

Next, you should enter your A answers. Enter these one at a time starting with the most important. To enter your A answers, you will type the letter A followed by the number.

For example,

(You type)	A253 (press the return key)
(Computer responds)	(same as for S commands)

CAREFUL!! Notice the number of occupations remaining in your search. If this number is low enough (perhaps 7-15 occupations) you might want to see them. To do so.

(You type)	P (press the return key)
(Computer responds)	(with your list of occupations)

Otherwise, continue the A command as described above until your number remaining is right for you or until you're finished. Then you type P if 25 or less occupations remain. If more than 25 occupations remain, type LIM and the number of occupations remaining and P.

For example,

(You type)	LIM 26 P (press the return key)
(Computer responds)	(with your 26 occupations)

If you wish to review the commands you gave the computer,

(You type)	L* (press the return key)

If you want a description of an occupation which you found in your search, simply type P and the number above that occupation on your printout,

For example,

(You type)	P100
(Computer responds)	(with a description of occupation #100)

You may, if you wish, change your mind at any time. To eliminate a command you have used type D and the number of the command. You may also include additional commands and reprint a new list.

If you wish to begin a new search, simply type R and press the return key.

When you are finished press Q and the return key. Now you can leave the terminal. Don't forget to take your printout.

There are many other ways to use WOIS, and there are many other kinds of information available in WOIS. Instructions for other types of use are found in the WOIS User Guide.

Quickie Questionnaire 3

There are many things to consider in making a career choice. Some things will be more important to you than others. By completing this questionnaire you can obtain a list of occupations with the characteristics you indicate you would like. From this list of occupations you can choose one, several, or all the occupations and get a description of it (them).

If you are looking for information about current job openings, talk with your counselor, check with the Job Service, or consult the newspaper ads. That information is not available from the questionnaire.

Five areas are included in this questionnaire for you to consider in making a career choice:

(1) occupational areas
(2) work environments
(3) physical demands
(4) work schedules including traveling
(5) educational requirements

Read the following statements and examine the possible answers to complete each. Then on the line to the left of each answer, mark

+ If you strongly want that characteristic included in your occupation
- If you strongly do not want that characteristic included in your occupation
? If you don't have a strong feeling one way or the other

Statement 1: I would like to work in:
(Since an occupation may fit into several occupational areas, it is better to choose at least two areas in which you would like to work.)

	art occupations	300
	occupations that involve mostly business relations	301
	occupations involving mostly clerical work	302
	occupations in counseling, guidance and social work	303
	occupations in trades, cooking and craft work	304
	occupations in the education and training of others	305
	occupations in laboring, helping and material handling	306
	occupations in engineering, technical writing and drafting	307
	occupations in fine arts, theatre, music and related areas	308
	occupations in farming, fishing and forestry	309
	occupations in investigating, inspecting and testing	310
	occupations in legal work and law enforcement	311
	occupations in machine work	312
	occupations in managerial and supervisory work	313
	occupations in physical sciences and scientific research	314
	occupations in medicine and health	315
	occupations in merchandising, sales and publicity	316
	occupations in creative musical work (not entertainment)	317
	occupations in personal services to people and animals	318
	occupations in photography and communications (sending & receiving)	319
	occupations in transportation services	320
	occupations in journalism and creative writing	321

Statement 2: I would like to work in an occupation in which the work is performed:

	mostly outside	360
	mostly inside	361
	both inside and outside	362

Statement 3: I would be willing to work in an occupation which:

	requires very little lifting, standing, carrying or walking	400
	requires lifting over 100 pounds, lifting and carrying 50 pounds or more	404
	involves mostly standing	410
	involves mostly sitting	411
	involves considerable walking	413

Statement 4: I would like to work:

_____ Monday through Friday only _____369
_____ 35-40 hours a week _____370
_____ usually overtime _____372
_____ seldom overtime _____373
_____ occasionally on weekends _____374
_____ frequently on weekends _____375
_____ frequently at night _____376
_____ traveling occasionally _____379
_____ traveling frequently _____380

Statement 5: I am looking for an occupation in which the amount of formal education an employer would require is:

_____ less than high school graduation _____240
_____ high school graduation _____241
_____ junior college, associate degree, _____243
_____ 1 year vocational-technical training _____245
_____ 2 years vocational-technical training _____246
_____ graduation from a four year college _____250
_____ a master's degree _____251
_____ a doctor's degree _____253

STEP 1: Look at each statement separately. For those with a -, place an S on the blank in front of the number on the right side of the page.

STEP 2: For those with a ±, you will either place an E or A. If you have just one ± answer under a statement, place A in the blank to the left of the number. If you have more than one ± answer under a statement, place an E in those blanks to the left of each number.

STEP 3: Write nothing in the blank to the left of each number for those you marked with a ?.

STEP 4: You can now enter your answers into the computer terminal. You may have to get someone to start or restar it for you. Regardless, the computer terminal will print out:

(Computer types)	Which file?
(You type)	NOCC (and press the return key which may be marked return, CR, or New Line)
(Computer responds)	National Occupational Information Ready ?

The computer always puts a ? when it's ready for you to type; you must always press the return key when you have finished typing.

STEP 5: You can now enter your answers. Start by typing in all your S answers. You do this by typing S followed by the number next to each S you marked on the questionnaire.

For example,

(You type)	S309S360...S340(press the return key)
(Computer responds)	(will respond to your entries, then will finish by printing the number of occupations remaining in your search.)

STEP 6: Enter all your E answers starting with Statement 1. To do this type E followed by the number, slash(/), followed by the next number, and continuing until all the E answers under Statement 1 have been typed.

For example,

(You type)	E300/304/308 (press the return key)
(Computer responds)	(same as for S commands)

Enter all E answers for the remaining four statements as you did for Statement 1.

STEP 7: You will finish by entering your A answers. Enter these one at a time. Be sure to pay special attention to the number of occupations that qualify. When 25 or less qualify you may want to go to "STEP 4." To enter your A answers, you will type the letter A followed by the number. For example,

(You type)	A360 (press the return key)
(Computer responds)	(same as for S commands)

STEP 8: To have the computer list the occupations qualifying, type P and press the return key if 25 or less qualify. If more than 25 occupations qualify, type LIM and the number of occupations remaining and P. Suppose 26 occupations qualify. Type LIM26P and press the return key.

STEP 9: If you wish to review the commands you gave the computer, type L* and press the return key.

STEP 10: For a description of an occupation, type P and the number above that occupation and press the return key.

STEP 11: You may, if you wish, change your mind at any time. To eliminate a command you have used type D and the number of the command. You may also include additional commands and reprint a new list.

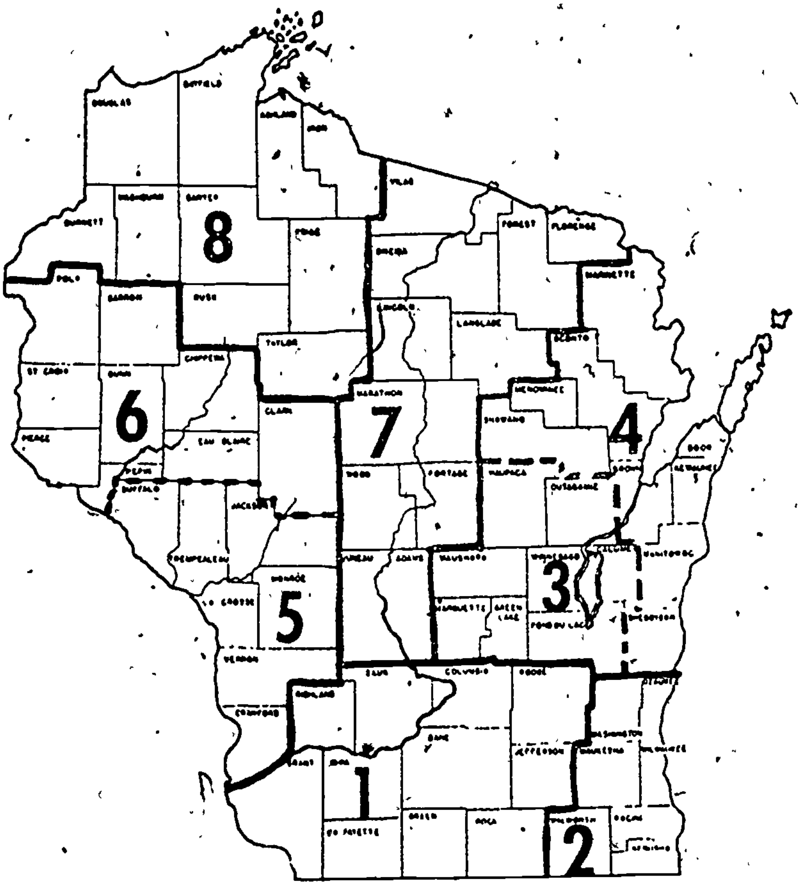
STEP 12: If you wish to begin a new search, simply type R and press the return key.

STEP 13: When you are finished type Q and press the return key. Now you can leave the terminal. Don't forget to take your printout.

See your counselor to discuss the list of occupations and descriptions you received from the computer and for suggestions on how to get more information from WOIS.

Explanation of the Employment Outlook Table in SOCC
(This is the information in Print 1 and Print 2)

1. Wisconsin's 8 Geographic Regions



2. Current Employment Outlook Symbols

F (Favorable) there are a surplus of jobs available
G (Good) Currently enough jobs for qualified workers
PA (Positions Available) Competetive - Some openings exist
LO (Limited Opportunities) Very highly competitive
P (Poor) Positions become available only occasionally.
NIA (No information available)

3. Long Range Outlook Symbols

C (Continuing) Little change expected in the employment outlook
IO (Increasing Opportunities) Some improvement expected.
DO (Decreasing Opportunities) Fewer Opportunities expected
NIA (No information available)

Inservice Training for WOIS Users

In developing the inservice training program for WOIS users, the focus is centered on the outcomes of such training. Strategies or processes to achieve the outcomes, and the various target groups of the training are integrated with these outcomes. The task at this time is further development of these areas, continued integration of them in order to formulate the overall inservice program, and development of the materials and the procedures for implementation.

Outcomes of Inservice Training

I. This section contains those outcomes associated with the frequency, the distribution, and the quality of use of the WOIS system. As such, these are initial outcomes to the inservice training effort.

1. The WOIS coordinator and the staff directly associated with dissemination of the WOIS are knowledgeable about the use of the WOIS including the commands, search strategies, and the file contents.

    - Strategies: General inservice training sessions for several user groups or a medium sized district are used to achieve this objective. The WOIS coordinator, staff directly associated with the dissemination of WOIS (i.e., other counselors), and interested administrators are contractually required to attend these sessions. Materials for these sessions would include all WOIS user materials.

2. The terminal is located in a place which is attractive and accessible so users are able to satisfy their informational needs. Further, additional informational resources available at the user site are integrated with the WOIS and, if possible, are housed in the same location.

    - Strategies; On site visitation to the user group is used to achieve this objective. The WOIS staff member visiting the site talks to the WOIS coordinator and his staff, examines the placement of the terminal and other materials, and talks to key administrative personnel in an attempt to encourage better uses of the WOIS by the users in the user group. The primary material required is a completed inventory which has been passed out at the previous general inservice meeting. This instrument assesses those factors crucial to effective utilization of the WOIS.

3. Users are aware of the WOIS, its use, and are motivated to use it to meet their informational needs.

   - Strategies: Achievement of this objective is attempted at both the general inservice meeting and at the on-site visitation. Primarily the WOIS coordinator and the staff directly associated with dissemination are encouraged to use those materials of the WOIS which are designed to achieve these objectives. The three user materials which contain the simulated use of the WOIS are the focus for achieving this objective: these include, the simulated search in the user guide, the simulated search on filmstrip, and the simulated computerized search.

II. This section contains those outcomes associated with enhancing utilization of the WOIS. As such, these outcomes follow those in the previous section.

1. The WOIS is integrated with the career guidance functions ongoing within the user group.

   - Strategies: Topic—specific inservice training sessions are held to achieve this objective. The WOIS coordinator and the staff directly associated with the use of WOIS attend these meetings. Materials have not yet been developed in this area; however, the WOIS Instructional Manual contains a section relevant to this objective.

2. Staff and others not directly associated with the use of the WOIS (i.e., teachers, parents) are aware of the WOIS and use it when it is appropriate.

   - Strategies: Topic—specific, inservice training sessions are held to achieve this objective. The WOIS coordinators from several districts or one large district attend these meetings. A parent instructional manual and curriculum related materials are in the initial phase of development and will provide the focusing material for these sessions.

III. This section contains the outcome associated with the total integration of the WOIS into the user group. As such, this outcome goes beyond the scope of the WOIS project, per se. However, it is an objective which, if achieved, would lead to the ultimate of usage of the WOIS.

Inservice Training for WOIS Users

1. A comprehensive "career education program" is implemented within the user group with the WOIS as a central component.

   - Strategies: Strategies have not yet been developed to accomplish this objective. It is anticipated that the total infusion within the user group of a comprehensive career education program will require an extensive effort on the part of both the WOIS staff and the staff of the user group working together.

Standards of Use for the Wisconsin Occupational Information System (WOIS)

By payment of the WOIS User Fee or by acceptance of materials distributed to a user group under a state contribution plan, the User Site agrees to observe the following "Standards of Use" with respect to WOIS services and materials. In turn, by acceptance of a user fee or a state contribution, WOIS agrees to provide the user materials and services stated in this agreement.

The responsibilities of WOIS User Sites to coordinate use of WOIS are as follows:

To insure appropriate use of WOIS:

1. A staff member (hereafter designated as the "WOIS Coordinator" or some similar title) must be assigned to carry out the responsibilities as they are outlined here. The WOIS Coordinator should have the authority and the responsibility to serve as the contact person for evaluation, in-service training, information dissemination and on-site implementation and promotion of the Wisconsin Occupational Information System.

2. The User Site is responsible to provide staff time for training in the use of WOIS. Typically, a User Site would have one WOIS Coordinator and several other individuals knowledgeable in the operation of WOIS. These individuals may be any persons designated by the Coordinator: staff, staff trainees or assistants, students or clients.

3. The User Site will assume responsibility for maintaining essential support materials, guides and manuals used in the operation of the system. Any missing materials should be reported by the WOIS Coordinator to the WOIS User Services staff member assigned to the Site.

4. Each User Site should provide enough accessible terminal time or access to manual materials so that all potential users will have ample opportunity to interact with the system as their needs dictate.

5. Each User Site should place the terminal or manual materials in a location where they are easily accessible to users.

6. Every User Site should make a serious effort to integrate WOIS into a coordinated and comprehensive career education system so that potential users of the entire system may benefit from its use to the greatest possible degree.

7. The User Site should make efforts to inform the community supporting the Site and served by the Site of the facility for using WOIS and the intended application at the User Site.

8. Each User Site should take every necessary step to assure that the system is kept running properly and report any malfunctions or data errors directly to the User Services staff.

To insure continued improvement of WOIS services, to protect the integrity of WOIS and to insure fair application of the user fee;

9. Each User Site should agree to cooperate with WOIS staff in implementation of reasonable evaluation procedures necessary to improve WOIS services.

10. All User Sites must comply with materials distribution guidelines which state that the proprietary rights to the system belong to WOIS.

11. Every User Site must agree not to change established materials of processes used to operate the system without written consent of WOIS User Services staff.

12. Every User Site should implement procedures for promoting usage of WOIS.

13. User Sites may not allow use of WOIS to any group or individual not covered by the user fee without written consent from WOIS.

14. If the User Site ceases to pay a user fee or if the state contribution ends, the User Site will return all WOIS materials and products.

WOIS agrees to provide the following services and materials:

1. For User Sites having contracted service with a computing center which has WOIS available, the user site can access the WOIS program at no additional cost.

2. For User Sites paying a user fee, WOIS will provide materials to operate the manual and/or computerized WOIS effectively.

3. For User Sites supported under a plan of state-level contribution, WOIS will provide one complete set of materials for the manual and/or computerized WOIS.

4. WOIS will provide inservice, both on-site and at regional centers, to insure effective system operation.

5. All users may purchase any additional WOIS materials at 'user only' cost.

WOIS MARKETING PLAN

Overview

The WOIS Marketing Plan has been designed to achieve several objectives. These objectives can be stated as follows:

- -Services to WOIS users will assure their understanding and use of WOIS.
- -Services to WOIS users will have continuity.
- -WOIS users will find that their suggestions for changes in the system are taken seriously.
- -Potential WOIS users will be exposed to WOIS and carefully followed up on their plans on adopting the system.
- -Inquiries of potential users to adopt WOIS services will be followed up quickly.
- -User fees for WOIS services will be collected in a coordinated manner.

These objectives will be met through various inservice, marketing, and promotional activities. These activities can be described as they relate to certain marketing strategies which together make up the overall marketing plan. These strategies can be stated as follows:

1. Organization of user services' staff members by the distribution centers' primary service areas.
2. Organization of inservice, user related and marketing activities by CESA districts.
3. Coordination of office procedures including responsibilities for service and filing of information.
4. Development of standards for inservice methods and of inservice materials.
5. Development and implementation of demonstration sites.
6. Development and implementation of processes for user feedback.
7. Organization and implementation of activities designed to assure general exposure of WOIS in Wisconsin.

These strategies and the activities subsumed under each are described in more detail in the remainder of this marketing plan. While the strategies do not related specifically to any one objective, the implementation of the overall plan will achieve those objectives described previously.

Organization of User Services Staff Members

Each user services staff member has been assigned responsibility for a specific geographic area within Wisconsin. These areas are formed by the six distribution centers' primary service areas. Dividing the state in this manner insures a continuity in both inservice and marketing activities. The only exceptions to these designated territories will be for special types of users for whom some member of the staff may have exceptional expertise. Responsibility within an area includes responsibility for marketing, including follow-up activities, responsibility for inservice, including on-site visitation, and responsibility for coordination and implementation of the WOIS relationships with CESA districts.

Following are the designations of responsibilities for each staff member to the various distribution centers' primary service areas.

Green Bay (CESA #9) - Darcy
Waukesha (CESA #16) - Darcy
River Falls (U/W) - New U.S. Specialist
La Crosse (U/W) - New U.S. Specialist
Whitewater (U/W) - Carl
Madison Area (MACC/La Crosse, U/W) - David
Milwaukee (Milwaukee) - David and Shelley

This division of the state places the heaviest time committments on Darcy and the new U.S. specialist. This will allow Carl to spend necessary time on computer delivery and program enhancements. It is expected that David and Shelley can serve to back up other users services staff who become over burdened with committments for services or marketing. This organizational strategy will also assure most efficient use of time and non-duplication of services by various staff members.

Organization of Inservice, User Related and Marketing Activities by CESA District

The primary service area of each distribution center is subdivided into the geographic boundries of the Cooperative Education Service Agencies. Thus, each user services staff member is assigned responsibility for specific CESA districts. This subdivision will be utilized for collection of fees, intensive marketing efforts, and after service has expanded more completely, for inservice programs and inservice training. This subdivision is particularly crucial since, with the emergence of the manual system, not attached to a distribution center, the necessity for an alternative base of operations separate from the distribution centers seems crucial. Additionally, CESAs facilitate contact of key people within the geographic areas served by the CESA.

Coordination of Office Procedures Including Responsibilities for Service and Filing of Information

The beginning page in the instructional manual provides users with persons to call when they are in need for specific services. This listing is individualized by the geographical territory of the user services staff and by the distribution center personnel.

A filing system has been initiated so that all memorandum, letters, and information related to users or potential users is accessible to all personnel on the WOIS project. Additionally, use of the same filing system for all personnel assures that modification or changes in personnel assignment to areas can be accomplished smoothly and to assure continuity of service to both users and potential users.

Development of Standards for Inservice Methods and of Inservice Materials

Our experience with our initial inservice efforts in October should allow development of a specific inservice package which will best meet the needs of the users. The initial inservice and on-site visits will be designed to assure that users know how to use WOIS, are familiar with the guides and manuals that support the system and are able to facilitate placement of the terminal so that it is accessible to users. The second round of inservice, probably in January or early February should be designed to assure for the enhancement of use of WOIS by all users of the system. Methods for accomplishing this purpose and the development of materials both for inservice and for use by coordinators in the field should be developed by that time.

Development and Implementation of Demonstration Sites

At the beginning of October, WOIS will have three accounts available thru MACC which can be used for on-site demonstration and promotion. We also have several terminals available which could be left at the demonstration sites for designated periods of time and which could be used during specified hours of each day. Discussion is needed on which sites should be selected. Considerations for demonstration sites should include a consideration of the potential of the site as a exemplary model for other users, as a tie to development of model programs, as a public relations gesture. Input from all staff on choosing these sites is being solicited.

It seems a reasonable target that our first demonstration site should be active by mid-October. Consideration should also be given to the needs of distribution centers for terminals to demonstrate their system. Integration of these needs with our intensive marketing effort through a local CESA could seem most appropriate. Based upon considerations of timing of the contractual period of the various secondary schools in the state, the larger schools in the southwest corner and those in the Madison area should probably receive first consideration as demonstration sites with plans for implementing demonstration sites in the River Falls area for later in the year.

Development and Implementation of Processes for User Feedback

Initially, user feedback will be obtained during on-site visit to users. Postcards have been developed to be included in the instructional manual which users can record comments about the system. Consideration should be directed towards on line feedback from terminals to distribution centers to WOIS staff.

Feedback from the distribution centers on actual use of the system following an inservice training session has been assured through discussions with distribution center representatives. Enhancements related to actual use of the various files and specific information on the uses of the program by each user should be developed during this year and tested at as many distribution centers as possible. Full implementation of this type of user feedback should be accomplished by September, 1977.

Organization and Implementation of Activities Designed to Assure General Exposure of WOIS in Wisconsin

Various conventions, conferences and other meetings of people who might be potential users of WOIS have been and continue to be explored and displays or presentations arranged. A list of such demonstrations and presentations should be completed by the end of September.

Our experiences of last year have indicated that a mass mailing to all persons who might be interested in WOIS is not a cost effective promotional mechanism. The greatest response which was received in the past year came from a brief article in a news publication of the department of education. Thus, effort should be made to include short articles in various publications and newsletters distributed by a variety of organizations. These include the Department of Education Newsletter, the WPGA Newsletter, Guidelines, the WSBA Newsletter, and as many other organs as is feasible to publicize the general knowledge about WOIS services and their availability in Wisconsin.

At this time, promotional displays, such as television advertising and newspaper advertising, are not being seriously contemplated. However, these and other methods of publicizing WOIS services should not be discounted and if other vehicles seem useful they should certainly be utilized.

APPENDIX IVF

.WOIS is the Wisconsin Occupational Information System

.WOIS provides students and adults in Wisconsin with a unique and comprehensive source of information needed for career planning and decision making.

WHAT ARE THE GOALS OF THE WOIS PROGRAM?

.Increasing awareness and knowledge about the broad spectrum of available careers

.Assisting those entering the world of work to find satisfying and useful careers

.Encouraging exploration of broad vocational possibilities

.Increasing awareness of the wide variety of occupational resources

.Providing support for career education, counseling, manpower planning, etc.

WHO DIRECTS THE WOIS PROGRAM?

The Wisconsin Occupational Information System is directed by the Wisconsin Vocational Studies Center, University of Wisconsin-Madison.

IS ANY ONE ELSE INVOLVED IN WOIS?

WOIS is a consortium effort of numerous state and local agencies.

Those state agencies cooperating and contributing to the development of WOIS are: Manpower Services Council, Department of Industry, Labor and Human Relations, Department of Public Instruction, Department of Local Affairs and Development, Job Service, Higher Education Aids Board, Board of Vocational Technical and Adult Education, Department of Health and Social Services, University of Wisconsin System, and Department of Administration.

Local Agencies cooperating and contributing to the development of WOIS are: Local School Districts, Cooperative Education Service Agencies, University System Campuses, Vocational, Technical and Adult Education Districts, Job Service Offices, Community Action Program Agencies, Vocational Rehabilitation Offices, and other private and public institutions and agencies.

WHAT ARE THE COMPONENTS OF WOIS?

.A computerized guidance information system which enables users to access state and local occupational information; two, four-year and graduate school information; most Wisconsin-approved training schools; financial aid information; and career resource information.

.A manually accessed system of all information files outlined above.

.Instructional media and career resource materials to assist in integrating WOIS with career education programs.

.Direct reference to the Career Education Directory, which describes all training programs in Vocational, Technical and Adult Education Schools.

.References to a variety of Wisconsin resources including the WISC program, which contains information on Wisconsin occupations, training schools and the U.S. Military, and job service information.

.References to and the use of a variety of career resources available through the Wisconsin Vocational Studies Center Resource Library.

WHAT IS WOIS

The effectiveness of a statewide program is directly related to the effectiveness of the people who manage it in the field. If they do not understand how it works, or what it's for, the program is not likely to be very effective, if, in fact, it is ever used. Many programs, materials, or systems have been purchased and installed in schools and other institutions without a significant effort to demonstrate their use. Consequently, many dollars have been invested with little return. In addition, people who create programs frequently ignore the needs of those using the program; thus, programs sometimes change in ways incomprehensible to the actual users.

WOIS User Services have the objective of alleviating these concerns. Carefully designed inservice programs and communication networks are provided to all managers and coordinators of the system. The objectives of inservice training are to insure that those persons managing the system in-the-field know how the system operates, what kinds of information are found in the system, how the system is best utilized with individual users and groups of users, and how a career information system relates to a total career education program.

Inservice training is conducted on several levels. General meetings of managers and coordinators at a regional site are designed to inform users about the system. Specific meetings conducted on-site are designed to insure the best utilization of WOIS with individuals and groups of users.

To facilitate communication, WOIS user services publishes a monthly newsletter, User Notes, which is designed to keep users informed of changes, errors, or new strategies for using WOIS. Finally, the WOIS user services staff is assigned responsibility for specific users within geographic regions, thus, insuring that users in the field are familiar with their own area representative.

Opportunities for users to comment on WOIS are numerous. All inservice training meetings provide the opportunity for an exchange of information so that user comments on the system can be reflected future changes to it. Postcards are given to use to insure their comments on the system-how it wor errors in the data, or changes which should be ma are reflected in bi-yearly updates. Finally, adv committees of users are formed to explore possibl changes in greater detail

USER SERVICES

To provide users with the most accurate and up to date information, WOIS employs a staff of information development specialists. The staff utilizes the resources of the U.S. Department of Labor to generate national occupational information. It works closely with the Wisconsin Department of Industry, Labor and Human Relations; the Occupational Analysis Field Center; the Job Service staff; the Vocational, Technical and Adult Education Board; and the University of Wisconsin System to develop and verify state and local information. In addition, individuals from business, labor, industry, and other work fields are called upon to verify the accuracy and currency of occupational information.

The information generated by the information development staff is reviewed and edited for readability and language level. The finished product reflects the most accurate information available. This material is written at the eighth to ninth grade reading level.

To maintain the information's recency, all computer files and the files in the hardcover system are periodically reviewed and updated. The computer files are updated every six months and the hardcover on an annual basis.

COMPUTERIZED INFORMATION

WOIS makes available to the user two comprehensive occupational information files from the computer. The first file contains information on over 1200 occupations. Each occupation is described in terms of its duties, work environment and levels of skill and ability needed for successfully performing on the job. In addition, an itemized list of worker and occupational characteristics, including national demand and salary levels, is available for each job via the computer.

The second computer file contains information on 400 specific occupations found in Wisconsin. Detailed descriptions of each occupation, cross-references to other computer files or resources within WOIS, salary ranges found in Wisconsin, and job outlook by geographic region within the State are available on the computer. The user may also get an itemized list of worker characteristics and qualifications needed to qualify for the job in Wisconsin.

Another computer file which provides additional information and assistance to the user is the Human Resource file. Names of individuals, organizations and associations in business, industry and other areas of work are available. Letters, materials, face-to-face communication, on site visits, and actual first hand observation of job performance are methods of assistance available through the human resource file.

HARDCOVER INFORMATION

All computerized information in WOIS is also availab in hardcover form. Additionally, the hardcover information contains more extensive information about each occupation than is available via the computer terminal. In particular, the hardcover occupational information includes lists of related job titles, career path information, and other information which may be deemed useful to users.

The major difference between the computerized and hardcover versions of WOIS is in the method of updating the information. Six month updates of the hardcover version of WOIS will take the form of addendums to the information, rather than actual revision of the data base. Completely new versions will be available each year.

OCCUPATIONAL INFORMATION

COMPUTERIZED AND HARDCOVER INFORMATION

WOIS has an extensive compiliation of education and training information. Two files contain specific information on educational institutions throughout the United States. A third file deals with financial aid information as it relates to post high school training in Wisconsin.

Four Year College Information

The Four Year College File contains information on most four year colleges operating in the country. The computer describes the academic programs offered by each institution; the size of the school and its location; tuition, fees, room and board; scholarships and loans available; social and campus activities; athletics; entry requirements; and competitiveness of the school. Information on each school serves as a mini catalogue and provides a complete picture of each college and university in the file. Users may design their own college profile and select a specific school or schools which meet all of the criteria in their profile.

State Education and Training File

The State Education and Training File contains information on all two year campuses of the University of Wisconsin; all Vocational, Technical and Adult Education Schools; many approved proprietary schools and hospital training schools in Wisconsin. Information on schools in this file include: programs offered, cost of programs, location within the state, types of institution, campus activities and entry requirements. The computer file enables users to identify state training programs and select those programs which best fit their needs.

State Financial Aid File

The state Financial Aid File contains information on financial aid and scholarships in Wisconsin higher education training institutions. The file contains questions with the appropriate answers covering all types of financial aid. Information ranging from questions concerning who is eligible for aid to clarifying the definitions of grants and loans are contained in the Finanical Aid File.

WOIS, working with the Higher Education Aids Board, is providing the most accurate and easily understandable explanation of financial aids in Wisconsin through this computer file.

MICROFILM INFORMATION

The WISC program (Wisconsin Instant Information
System for Students and Counselors) is a manual
delivery system that provides information on tr
schools in Wisconsin through the medium of micr
aperture cards. WISC describes in detail over
training schools found in Wisconsin. All two y
campuses of the University of Wisconsin, all
Vocational, Technical, and Adult Education scho
and some approved proprietary and hospital scho
are included in WISC. Information about the sc
includes a general background of the school, ad
sion requirements; programs offered; costs of
tuition, room and board; and financial assistan
available to students.

OTHER TRAINING SCHOOL INFORMATION

Two toll free telephone numbers operate in Wisc
to provide information on post secondary traini
institutions. Project "ICED" (Instant Career
Education Directory) provides complete informat
on all Vocational, Technical and Adult Educatio
schools and programs. Project HELP (Higher Edu
Location Program) provides complete information
all the University of Wisconsin System campuses
programs. The two telephone lines enable users
get the most recent information on training sch
opportunities in Wisconsin.

The Career Education Directory is a looseleaf b
containing all of the programs offered by the
Wisconsin Vocational Technical and Adult Educat
Schools. The Directory enables users to visual
compare training programs and their relationshi
the world of work, and consequently determine t
training program needed for vocational preparat

A complete file of college and university catal
on microfilm is available from WOIS. The micro
provide an easy to use, compact method of explo
programs and institutions from across the count

UPDATING THE TRAINING SCHOOL INFORMATION

The computer files are updated every six months
insure accurate and up-to-date information. Th
WOIS hardcover files, the Career Education Dir
and the microfiche files of college catalogues
revised annually. Through this effort WOIS is
viding the most recent information on training
institutions available.

EDUCATION AND TRAINING INFORMATION

Providing current, accurate, and useful information is one major objective of WOIS. Equally important, is a a second objective of WOIS of providing useable information. Constructing WOIS to provide useable information has been accomplished by maximizing three often antagonistic factors: first, WOIS should be easy to use; second, WOIS should provide a learning experience beyond the acquisition of specific knowledge; and third, WOIS should be delivered at the most reasonable cost possible. Each decision made in constructing WOIS has been weighed as to its effect on each of these factors. The result is a system which, as much as possible, is easy to use, provides a learning experience for users beyond the specific acquisition of knowledge and is delivered to users at a reasonable cost.

Using WOIS, that is, finding the information one desires, is done in three ways. First, users can access directly the specific information which they desire. Second, users can search for information which they might desire based upon any of hundreds of factors about the information which they individually select based upon their likes and dislikes. And third, users can move from one type of information to other types which are related in specific ways.

The WOIS Index lists the names and access numbers of all types of information in the system. Users can easily access any information which they specifically desire from WOIS.

The WOIS User Guide, Worksheet, Quickie Questionnaires and Instructional Posters allow users to search for information based upon characteristics which they believe important for themselves. For example, a list of related occupations, sorted on the basis of a set of unique characteristics chosen by a user, can be obtained in an almost infinite variety of ways based upon over 200 occupational characteristics available in the occupational file. Not only do users learn about the specific occupation in which they are interested, they also learn of those factors or characteristics which can be used to sort occupations and which may or may not be important to them. In short, while users learn about specific occupations, they also learn about the world of work in general.

Planning a career involves one in selecting an occupation or group of occupations in which one is interested, determining the education or training path or paths required for access into the occupation or occupations, and compiling resources to carry out the plan. The cross referencing in WOIS facilitates users movement in acquiring information on many alternatives as they go about developing a career plan. For example, information about an occupation includes information on the type of training required and a direct reference to allow one to obtain a list of schools which offer the prerequisite program. From this point, users are led to information relative to the resources which they will need to pursue their plan.

Finally, at any time, users of WOIS are able to change the factors they are using in a search. Perhaps, the information which they receive is not what was expected. The rules for using WOIS make it easy to redo a search using different criteria. Users can also check to determine why an occupation or institution of interest did not qualify in their search and decide for themselves whether the factor(s) which eliminated it was of enough importance.

In summary, WOIS provides an occupational and educational information system which is easy to use, which enhances knowledge beyond the specific knowledge about one occupation or institution, and which is delivered at a resonable cost.

SEARCHING FOR INFORMATION

There is one fee required to obtain WOIS services. This fee, called a user fee, is based upon the number of persons having access to WOIS services. This fee provides a complete and usable system. However, many users, because of the advantages of efficiency, interest, and effectiveness, wish to obtain WOIS by computer delivery. The additional fee for computer delivery depends upon the type or quality of the equipment chosen, the location of the user group in the state relative to a computer center, and the fees for computer access charged by the [redacted] center.

USER FEE

WOIS is supported by a gradually decreasing developmental grant. Thus, until September, 1977, when the first reduction in the grant occurs, there is no fee for WOIS services. Beginning in September, 1977, there will be a yearly fee of 45¢ per potential user charged to the school, institution, or agency desiring access to WOIS. This fee, which was approved by the WOIS Board of Directors in August, 1976, is intended to help support the development of WOIS information, the updating of WOIS information semi-annually, the development and implementation of various delivery vehicles, the continuous inservice training programs, manuals, guides and other support materials for the system.

In order to calculate approximately what your fee would be, a potential user is defined as all those within a school, institution, or agency who could have access to the delivery vehicle. Several guidelines exist which are used to determine the exact fee; however, a minimum fee of $160.00 is assessed against any user group.

Feel free to contact WOIS to obtain an estimate of your fee should this brief description not seem to apply easily.

A wide range of services are covered by this yearly user fee making WOIS cost-effective for any institution or agency involved in the career planning or career placement activities of others.

- .Access to all information in WOIS updated every six months to reflect changing job market conditions, effects of inflation, effects of technological advances, and other types of variations in our rapidly changing society.
- .An extensive inservice program eventually including modules for teachers, administrators and interested adults.
- .All materials necessary to successfully operate the computerized and/or manual versions of WOIS including manuals, guides, questionnaires, hardcover materials, posters, etc.
- .Access to a free-loan system which includes microfilm of current college catalogues of most colleges in the United States, filmstrips on use of WOIS, and a wide variety of career education materials.
- .Information to help account to boards of directors or school boards the cost-effectiveness of WOIS services for users from your particular institution or agency.
- .Additional materials, including needle sort decks, hardcover materials, and other support materials actual cost of printing plus distribution.

COMPUTER DELIVERY FEE

There are a variety of alternatives involved in receiving WOIS information via computer. Each alternative will be found to have a different cost. Computer delivery is more expensive; however, the advantages of computer delivery will in many cases outweigh the higher cost.

Computer costs typically include the following: le of a terminal to receive information from the compu a yearly fee for use of the computer, and a telecom ications charge. While a total amount for the services will differ depending upon location, amount use, and type of equipment; generally, the total d livery fee for computer services will range from $1800 to $4500 per year for full-time service.Redu fees for less than full-time service are oft[illegible] possible but are normally less cost efficient due to fixed costs of some equipment.

It is important to remember, however, that many oth services are available through a computer terminal addition to the occupational information system.Th services can often make computer delivery a cost e fective means for a particular school, agency, or institution, The WOIS staff would be happy to disc your particular situation and the availability of other services, instructional computing and adminis tive services with you. The staff would also be ab to explain in more detail the different types of equipment, the process involved in obtaining it, th specific costs for your situation and possible, cos effective alternatives. Finally, the WOIS staff wi support your acquisition in any way possible.

For more information contact:

WISCONSIN OCCUPATIONAL INFORMATION SYSTEM
UNIVERSITY OF WISCONSIN - MADISON
321 EDUCATION BLDG. (BOX 49)
MADISON, WI, 53706
PHONE: (608) 263-2725

COST AND EQUIPMENT

PRE-SURVEY APPENDIX VA

WOIS STUDENT SURVEY

Name____________________

PART I

A. Personal and Educational Characteristics

1. Your Sex: ____Male ____Female

2. Your Ethnic Identity: (Optional)

____American Indian or Native American
____Black or Afro-American
____Spanish Surname or Latin American
____Oriental or Asian American
____White or Caucasian
____Other (Specify) ____________________

3. Have you ever held a paid job lasting 1 month or longer?

____Yes ____No

4. Have you ever held an unpaid (volunteer) job lasting 1 month or longer? (Include part-time volunteer work.

____Yes ____No

5. After graduation do you plan to:

____Go to school full-time and not work
____Get a full-time job and not go to school
____Other (Please specify.)____________________
____Uncertain at this time

B. Facts About Your Use of Occupational Information

1. Please check whether you have used the following occupational information sources during the past year.

Yes	No	Don't Remember	
____	____	____	Books or pamphlets
____	____	____	Film-strips, cassettes, microfiche, etc.
____	____	____	Computers
____	____	____	Talking to people in career centers and public employment offices
____	____	____	Other (Please specify.)____________________

2. Estimate the number of hours you spent during the past year getting information from the sources listed above.

____Less than 1 hour.
____More than 1 hour. ESTIMATE THE NUMBER OF HOURS ________

3. Was the information you obtained easy to understand?

____Yes ____No ____Undecided

4. Did the information you obtained answer your questions about occupations?

____Yes ____No ____Undecided

5. Did these resources introduce you to occupations that you had not thought about before?

____Yes, to quite a few
____Yes, to one or two
____No
____Undecided

6. In general, are you able to locate occupational information on your own?

____Yes
____Yes, but with some difficulty
____No
____Undecided

7. Have you discussed your career plans with any of the following persons? (Check each one that applies.)

____Friends
____Counselors
____Parents
____Teachers
____Not really with anyone
____Others (Please specify.) ____________________

PART II

Facts About the Occupation You Are Most Interested In

1. What occupation are you now most interested in? (If you are interested in more than one occupation, put down your first choice).

____

2. How certain are you that you would like a career in the occupation you listed?

_____Very certain _____Certain _____Uncertain _____Very uncertain

3. The schooling usually needed to prepare for this occupation is:

_____Less than high school graduation
_____High school graduation
_____Post-high school vocational school
_____Community or technical college graduation
_____Four years of college
_____More than four years of college
_____I'm not sure

4. Before working in this occupation, must a person pass an examination and be licensed by the State?

_____Yes _____No _____I'm not sure

5. The average starting earnings in this occupation in Wisconsin are:

_____Less than $6,000 per year or less than $2.90 per hour.
_____$6,000 to $9,000 per year or $2.90 to $4.30 per hour.
_____$9,000 to $15,000 per year or $4.30 to $7.20 per hour.
_____$15,000 to $25,000 per year or $12.00 per hour.
_____More than $25,000 per year or $12.00 per hour.
_____I'm not sure

6. The employment situation for this occupation in Wisconsin is currently:

_____Shortage of workers
_____Balance of workers and jobs
_____Surplus of workers
_____I'm not sure

7. The number of workers in this occupation in Wisconsin is expected to:

_____Increase _____Decrease _____Stay the same _____I'm not sure

8. Employment in this occupation in Wisconsin is seasonal.

_____Yes _____No _____I'm not sure

9. Work in this occupation involves some danger and risk of injury or disease.

_____Yes _____No _____I'm not sure

10. To work in this occupation, you generally need the ability to understand words and ideas and to present information effectively.

_____Yes _____No _____I'm not sure

11. Workers in this occupation should be able to work easily and skillfully with their hands.

_____Yes _____No _____I'm not sure

12. To work in this occupation, you generally need the ability to do subtraction, addition, multiplication, and division quickly and accurately.

_____Yes _____No _____I'm not sure

POST-SURVEY

Name ______________________________

WOIS Student Survey

PART I

A. Personal and Educational Characteristics

1. Have you held a paid job during this school year lasting 1 month or longer? (Include part-time work.)

   ______Yes ______No

2. Have you held an unpaid (volunteer) job during this school year lasting 1 month or longer? (Include part-time work.)

   ______Yes ______No

3. After graduation, do you plan to:

   ______Go to school full-time and not work
   ______Get a full-time job and not go to school
   ______Other (Please specify.) ______________________
   ______Uncertain

B. Your Use of the Wisconsin Occupational Information System (WOIS)

1. How did you first find out about the WOIS computer terminal?

   ______From a friend
   ______In a class
   ______Through school media (posters, news articles, daily announcements)
   ______From counselor
   ______Other (Please specify.) ______________________
   ______I'm not aware of the WOIS computer terminal (If unaware, please skip to Part C.)

2. How often have you used WOIS during the past school year?

   ______I have not used it. (Please skip to Part C.)
   ______Once
   ______Twice
   ______More than twice: ESTIMATE THE NUMBER OF TIMES USED ______

3. Approximately how much total time have you spent on WOIS during the past school year?

   ______Less than 1 hour
   ______More than 1 hour: ESTIMATE THE NUMBER OF HOURS ______

4. How long is it since you last used WOIS?

   ______Less than 1 month
   ______Between 1 and 2 months
   ______More than 2 months: ESTIMATE THE NUMBER OF MONTHS ______

5. How did you learn to use the WOIS computer terminal?

   ______From a personal demonstration
   ______By reading the User Guide
   ______By reading the "Instructions" poster
   ______By using the instructions on a Quickie Questionnaire

6. In using WOIS, did you put information about your interests, aptitudes, educational preferences, and physical abilities into the computer, and then receive a list of occupations meeting your choices?

   ______Yes ______No ______I don't remember

7. Did your use of the WOIS computer terminal encourage you to further examine your interests, skills, educational preferences, and needs?

   ______Yes, a great deal ______Yes, somewhat ______No

OVER

8. Which of the WOIS files did you use? Check all you used.

______National Occupational (NOCC)
______State Occupational (SOCC)
______4 Year College (COL 4)
______State Education and Training (STET)
______State Financial Aid (SAID)
______Human Resource (HUMR)
______I don't remember

9. As a result of your experience with the computer, which of the following resources have you used? Check all you used.

______WISC (Wisconsin Instant Information for Students and Counselors)
______Dictionary of Occupational Titles
______Job Service Office
______Occupational Briefs
______"Hot Lines" (ICED, HELP)
______Other (Please list.) ______________________________

______None

10. Now that you have used WOIS, can you tell us how well you think it has helped you?

a. The information it provided was: ______Useful ______Not useful

b. Access to the various materials, machines, computer terminals, books, etc. was:
______Convenient ______Not convenient

c. Instructions on how to use the materials and equipment were: ______Clear ______Not clear

d. The system was easy to use without help. ______Yes ______No

e. The occupational information I received from WOIS was easy to understand.
______Yes ______No

f. The information I obtained from WOIS answered the questions I had about occupations.
______Yes ______No ______Undecided

11. Have you changed your first choice occupation since using WOIS?

______Yes ______No ______Undecided

12. Were you introduced to occupations that you had not thought about before?
______Yes ______No ______Undecided

13. Have you discussed your career plans with any of the following after using WOIS? (Check all that apply.)

______Friends
______Counselors
______Parents
______Teachers
______Not really with anyone
______Others (Please specify:) ______________________________

14. Do you plan to use WOIS again?

______Yes ______No ______Don't know

15. Would you need help in using the WOIS terminal for further career exploration?

______Yes, I would need someone to show me exactly how to use it
______Yes, I might need some help in using the terminal
______No

16. Are you now more able to seek out occupational information on your own as a result of your experience with WOIS?

______Definitely
______To some extent
______No noticeable improvement

17. How would you describe your overall experience with the Wisconsin Occupational Information System?

______Very favorable
______Favorable
______Undecided
______Unfavorable
______Very unfavorable

18. Do you have other comments which you wish to make about the WOIS system (e.g., on performance of equipment, additional assistance needed, parents' reactions, how it has affected you, etc.)?

C. Facts About Your Use of Occupational Information Sources Other than WOIS

1. Please check whether you have used the following other occupational information sources during the past year. Do not include use of WOIS.

Yes	No	Don't Remember	
______	______	______	Books or pamphlets
______	______	______	Filmstrips, cassettes, microfiche, etc.
______	______	______	Talking to people in career centers and public employment offices
______	______	______	Other (Please specify.) ______________________ ______________________

2. Estimate the number of hours you spent during the past year getting information from the sources listed above.

______I have not used any of the information listed in question 1 above. Please skip to Part II.
______Less than 1 hour
______More than 1 hour ESTIMATE THE NUMBER OF HOURS ______

3. Was the information you obtained easy to understand?

______Yes ______No ______Undecided

4. Did the information you obtained answer your questions about occupations?

______Yes ______No ______Undecided

5. Did these resources introduce you to occupations that you had not thought about before?

______Yes, to quite a few
______Yes, to one or two
______No
______Undecided

6. In general, are you able to locate occupational information on your own?

______Yes
______Yes, but with some difficulty
______No
______Undecided

7. Have you discussed your career plans with any of the following persons? (Check each one that applies.)

______Friends
______Counselors
______Parents
______Teachers
______Not really with anyone
______Others (Please specify.) ______________________
____

8. (For those who have not used WOIS): Have you changed your first choice occupation over the past year?

______Yes ______No ______Undecided

OVER

PART II

Facts About the Occupation You Are Most Interested In

1. What occupation are you now most interested in? (If you are interested in more than one occupation, put down your first choice).

____

2. How certain are you that you would like a career in the occupation you listed?

_____Very certain _____Certain _____Uncertain _____Very uncertain

3. The schooling usually needed to prepare for this occupation is:

_____Less than high school graduation
_____High school graduation
_____Post-high school vocational school
_____Community or technical college graduation
_____Four years of college
_____More than four years of college
_____I'm not sure

4. Before working in this occupation, must a person pass an examination and be licensed by the State?

_____Yes _____No _____I'm not sure

5. The average starting earnings in this occupation in Wisconsin are:

_____Less than $6,000 per year or less than $2.90 per hour.
_____$6,000 to $9,000 per year or $2.90 to $4.30 per hour.
_____$9,000 to $15,000 per year or $4.30 to $7.20 per hour.
_____$15,000 to $25,000 per year or $7.20 to $12.00 per hour.
_____More than $25,000 per year or $12.00 per hour.
_____I'm not sure

6. The employment situation for this occupation in Wisconsin is currently:

_____Shortage of workers
_____Balance of workers and jobs
_____Surplus of workers
_____I'm not sure

7. The number of workers in this occupation in Wisconsin is expected to:

_____Increase _____Decrease _____Stay the same _____I'm not sure

8. Employment in this occupation in Wisconsin is seasonal.

_____Yes _____No _____I'm not sure

9. Work in this occupation involves some danger and risk of injury or disease.
_____Yes _____No _____I'm not sure

10. To work in this occupation, you generally need the ability to understand words and ideas and to present information effectively.

_____Yes _____No _____I'm not sure

11. Workers in this occupation should be able to work easily and skillfully with their hands.

_____Yes _____No _____I'm not sure

12. To work in this occupation, you generally need the ability to do subtraction, addition, multiplication, and division quickly and accurately.

_____Yes _____No _____I'm not sure

WOIS COORDINATOR SURVEY

1. What type or model of computer terminal (Decwriter, Texas Instruments Model 745, etc.) is used for WOIS at your school?

2. Have users been having any recurring problems with the terminal being used?

______ Yes ______ No If yes, please describe:

3. Where in the school building (guidance office, science room, resource center, etc.) is the terminal located?

4. Is the terminal used for purposes (administrative programs, math instructions, etc.) other than WOIS?

______ Yes ______ No If yes, please describe:

5. How many hours per week, during the school day do students have access to the terminal specifically for WOIS?

______ Hours per week

6. What is the enrollment at each of your school's grade levels?

______ 9th ______ 11th ______ Other (please describe ______
______ 10th ______ 12th ______

7. What percentage of students at each grade level would you estimate have used WOIS?

______ % 9th ______ % 11th ______ Other
______ % 10th ______ % 12th

8. What percentage of the total of WOIS users at your school were referred to WOIS in each of the following manners?

______ % by a counselor
______ % by a teacher
______ % by another student
______ % by parent(s)
______ % self-referral

100% (of WOIS users)

9. What percentage of the total number of users learned how to use WOIS by each of the following methods?

______ % Group instruction provided by the counseling staff or other school personnel.
______ % Individual assistance (e.g., from a counselor or experienced student).
______ % On their own (with <u>User Guide</u>, Quickie Questionaires, etc.)
______ % Learned in other ways. (Please explain ______.)

100% (of WOIS users)

10. Are students having any significant problems learning to use WOIS?

______ Yes ______ No If yes, please explain:

OVER PLEASE

11. What percentage of students used WOIS in each of the following ways?

______ % Direct acces (asked for information on specific occupations or schools)
______ % Structured search (entered a list of personal characteristics, work environment preferences, and/or school characteristics to obtain a list of occupations or post-secondary schools that matched entries.)
______ % Both direct access and structured search
______ % Don't know how it was used by this percentage of students

100% (of WOIS users)

12. Please rank the WOIS computer files from most often used (1) to least often used (6) students:

______ National Occupational File (NOCC)
______ State Occupational File (SOCC)
______ 4 Year College File (COL4)
______ State Education and Training File (STET)
______ State Financial Aid File (SAID)
______ Human Resource File (HUMR)

13. How well do you know how to use WOIS?

______ Well enough to teach others
______ Need some further assistance and/or practice
______ Have not learned to use it yet

14. How would you describe student reaction to WOIS?

______ Very favorable
______ Favorable
______ Neutral
______ Unfavorable
______ Very Unfavorable

15. What assistance from the WOIS user services staff do you anticipate your school will need next year?

16. General comments:

YOUR SCHOOL'S MEDIA EQUIPMENT

The following information will help the Wisconsin Vocational Studies Center in preparing instructional materials for WOIS. Please consult with your school's audio-visual coordinator if you are unsure of the answers to these questions.

1. What type(s) of slide projector (e.g., Kodak Carousel Ektagraphic Model AF-Z) does your school have?

2. What type(s) of film strip projector (e.g., DuKane Super Micromatic Cassette Projector Model 28A15B) does your school have?

2a Does it use ____ records or ____ audio tapes?
2b Does it have ____ audible or ____ inaudible cueing?

3. Does your video equipment use:

______ 1/2" EIAJ format ______ Black and White
______ 3/4" cassette format ______ Color

4. Does your school have a microfiche reader which is available for student use?

______ Yes ______ No

Thank you for responding.
Please return to:

WOIS
Wisconsin Vocational Studies Center
321 Education Building, Box 49
University of Wisconsin - Madison
Madison, Wisconsin 53706