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AUTHOR Whitfield, Edwin A.
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ABSTRACT

This module, one in a series of competency-based guidance program training packages, focuses on specific professional and paraprofessional competencies of guidance personnel. Modules in Category C suggest how to conduct, accomplish, or carry out selected career guidance program activities. The purpose of this module is to help career guidance personnel increase their skills needed to plan, choose, and implement a computer-assisted guidance system based on local needs and resources. It begins with a section that presents the module goal and a listing of the four competency statements. An introduction gives an overview of the purpose and content of the module. The next section presents a reading (cognitive information) on each one of the competencies. Learning experiences related to the needed competencies follow. One learning experience exists for each competency (or cluster of competencies), and each may stand on its own. Each learning experience consists of an individual activity, individual feedback, and group activity. An evaluation section contains a Pre- and Post-Participant Assessment Questionnaire and a Trainer's Assessment Questionnaire. A final section lists all references and provides annotations of related major resources.

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Conduct Computerized Guidance



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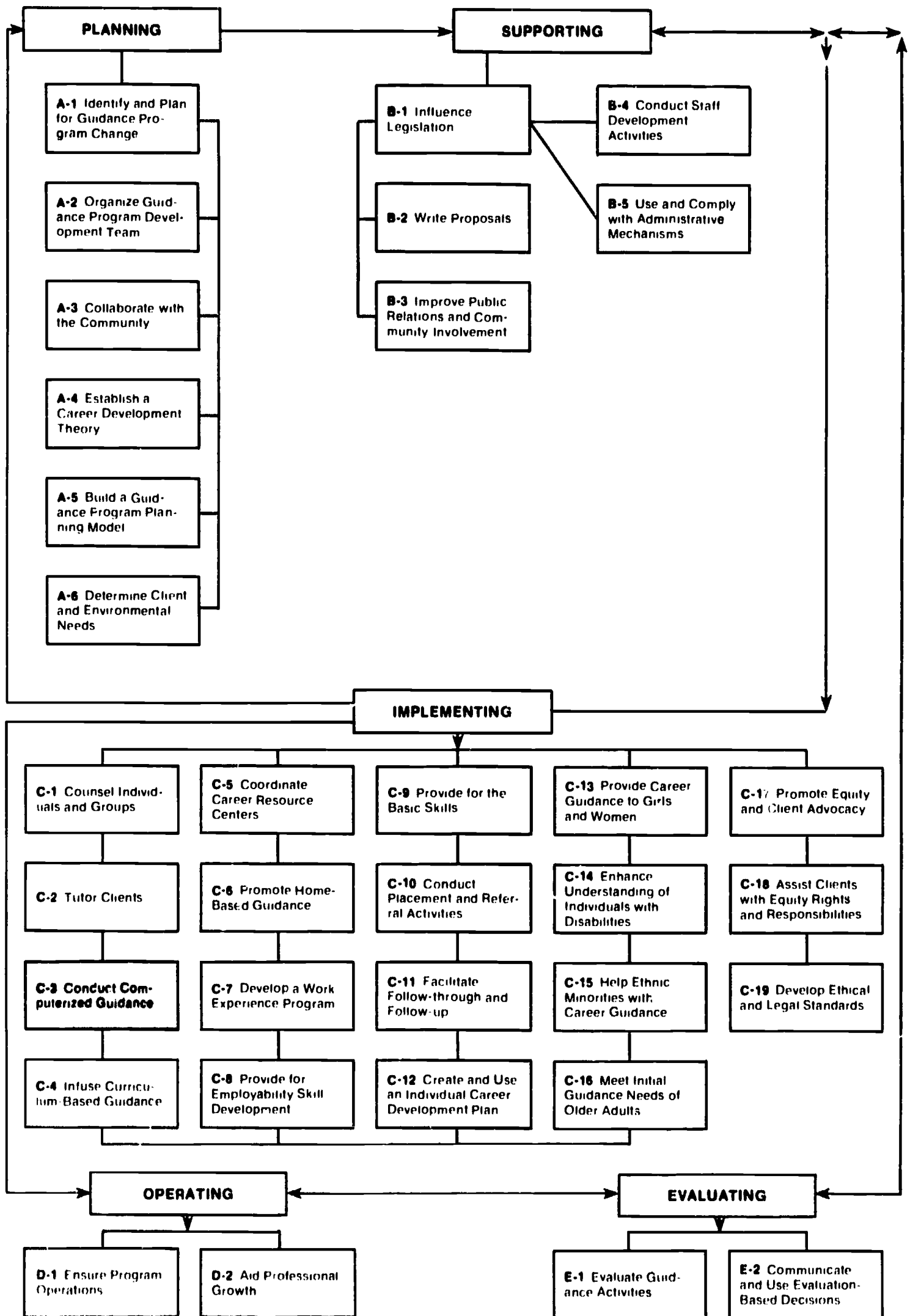
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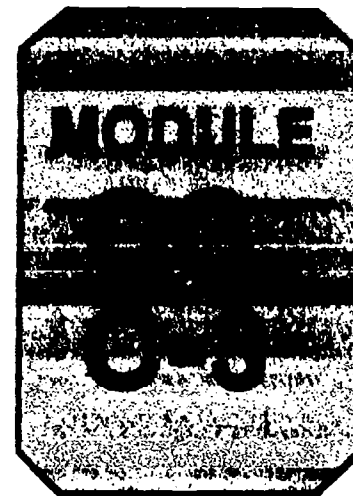
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COMPETENCY-BASED CAREER GUIDANCE MODULES



Conduct Computerized Guidance



**Module CG C-3 of Category C — Implementing
Competency-based Career Guidance Module Series**

by Edwin A. Whitfield
San Diego County Department of Education
San Diego, CA

The National Center for Research in Vocational Education

The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

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FOREWORD

This counseling and guidance program series is patterned after the Performance-Based Teacher Education modules designed and developed at the National Center for Research in Vocational Education under Federal Number NE-C00-3-77. Because this model has been successfully and enthusiastically received nationally and internationally, this series of modules follows the same basic format.

This module is one of a series of competency-based guidance program training packages focusing upon specific professional and paraprofessional competencies of guidance personnel. The competencies upon which these modules are based were identified and verified through a project study as being those of critical importance for the planning, supporting, implementing, operating, and evaluating of guidance programs. These modules are addressed to professional and paraprofessional guidance program staff in a wide variety of educational and community settings and agencies.

Each module provides learning experiences that integrate theory and application, each culminates with competency referenced evaluation suggestions. The materials are designed for use by individuals or groups of guidance personnel who are involved in training. Resource persons should be skilled in the guidance program competency being developed and should be thoroughly oriented to the concepts and procedures used in the total training package.

The design of the materials provides considerable flexibility for planning and conducting competency-based preservice and inservice programs to meet a wide variety of individual needs and interests. The materials are intended for use by universities, state departments of education, postsecondary institutions, intermediate educational service agencies, JTPA agencies, employment security agencies, and other community agencies that are responsible for the employment and professional development of guidance personnel.

The competency-based guidance program training packages are products of a research effort by the National Center's Career Development Program Area. Many individuals, institutions, and agencies participated with the National Center and have made contributions to the systematic development, testing, and refinement of the materials.

National consultants provided substantial writing and review assistance in development of the initial module versions. Over 1300 guidance personnel used the materials in early stages of their development and provided feedback to the National Center for revision and refinement. The materials have been or are being used by 57 pilot community implementation sites across the country.

Special recognition for major roles in the direction, development, coordination of development, testing, and revision of these materials and the coordination of pilot implementation sites is extended to the following project staff: Harry N. Drier, Consortium Director; Robert E. Campbell, Linda Pfister, Directors; Robert Bhaerman, Research Specialist; Karen Kimmel Boyle, Fred Williams, Program Associates; and Janie B. Connell, Graduate Research Associate.

Appreciation also is extended to the subcontractors who assisted the National Center in this effort: Drs. Brian Jones and Linda Phillips-Jones of the American Institutes for Research developed the competency base for the total package, managed project evaluation, and developed the modules addressing special needs. Gratitude is expressed to Dr. Norman Gysbers of the University of Missouri-Columbia for his work on the module on individual career development plans. Both of these agencies provided coordination and monitoring assistance for the pilot implementation sites. Appreciation is extended to the American Vocational Association and the American Association for Counseling and Development for their leadership in directing extremely important subcontractors associated with the first phase of this effort.

The National Center is grateful to the U.S. Department of Education, Office of Vocational and Adult Education (OVAE) for sponsorship of three contracts related to this competency-based program training package. In particular, we appreciate the leadership and support offered project staff by David H. Pritchard who served as the project officer for the contracts. We feel the investment of the OVAE in this training package is sound and will have lasting effects in the field of guidance in the years to come.

Robert E. Taylor
Executive Director
National Center for Research
in Vocational Education



The National Center for Research in Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. The National Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Providing information for national planning and policy
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

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ABOUT USING THE CBCG MODULES

CBCG Module Organization

The training modules cover the knowledge, skills, and attitudes needed to plan, support, implement, operate, and evaluate a comprehensive career guidance program. They are designed to provide career guidance program implementers with a systematic means to improve their career guidance programs. They are competency-based and contain specific information that is intended to assist users to develop at least part of the critical competencies necessary for overall program improvement.

These modules provide information and learning activities that are useful for both school-based and nonschool-based career guidance programs.

The modules are divided into five categories. The GUIDANCE PROGRAM PLANNING category assists guidance personnel in outlining in advance what is to be done.

The SUPPORTING category assists personnel in knowing how to provide resources or means that make it possible for planned program activities to occur.

The IMPLEMENTING category suggests how to conduct, accomplish, or carry out selected career guidance program activities.

The OPERATING category provides information on how to continue the program on a day-to-day basis once it has been initiated.

The EVALUATING category assists guidance personnel in judging the quality and impact of the program and either making appropriate modifications based on findings or making decisions to terminate it.

Module Format

A standard format is used in all of the program's competency-based modules. Each module contains (1) an introduction, (2) a module focus, (3) a reading, (4) learning experiences, (5) evaluation techniques, and (6) resources.

Introduction. The introduction gives you, the module user, an overview of the purpose and content of the module. It provides enough information for you to determine if the module addresses an area in which you need more competence.

About This Module. This section presents the following information:

Module Goal: A statement of what one can accomplish by completing the module.

Competencies: A listing of the competency statements that relate to the module's area of concern. These statements represent the competencies thought to be most critical in terms of difficulty for inexperienced implementers, and they are not an exhaustive list.

This section also serves as the table of contents for the reading and learning experiences.

Reading. Each module contains a section in which cognitive information on each one of the competencies is presented.

1. Use it as a textbook by starting at the first page and reading through until the end. You could then

complete the learning experiences that relate to specific competencies. This approach is good if you would like to give an overview of some competencies and a more in-depth study of others.

2. Turn directly to the learning experience(s) that relate to the needed competency (competencies). Within each learning experience a reading is listed. This approach allows for a more experiential approach prior to the reading activity.

Learning Experiences. The learning experiences are designed to help users in the achievement of specific learning objectives. One learning experience exists for each competency (or a cluster of like competencies), and each learning experience is designed to stand on its own. Each learning experience is preceded by an overview sheet which describes what is to be covered in the learning experience.

Within the body of the learning experience, the following components appear.

Individual Activity: This is an activity which a person can complete without any outside assistance. All of the information needed for its completion is contained in the module.

Individual Feedback: After each individual activity there is a feedback section. This is to provide users with immediate feedback or evaluation regarding their progress before continuing. The concept of feedback is also intended with the group activities, but it is built right into the activity and does not appear as a separate section.

Group Activity: This activity is designed to be facilitated by a trainer, within a group training session.

The group activity is formatted along the lines of a facilitator's outline. The outline details suggested activities and information for you to use. A blend of presentation and "hands-on" participant activities such as games and role playing is included. A Notes column appears on each page of the facilitator's outline. This space is provided so trainers can add their own comments and suggestions to the cues that are provided.

Following the outline is a list of materials that will be needed by workshop facilitator. This section can serve as a duplication master for mimeographed handouts or transparencies you may want to prepare.

Evaluation Techniques. This section of each module contains information and instruments that can be used to measure what workshop participants need prior to training and what they have accomplished as a result of training. Included in this section are a Pre- and Post-Participant Assessment Questionnaire and a Trainer's Assessment Questionnaire. The latter contains a set of performance indicators which are designed to determine the degree of success the participants had with the activity.

References. All major sources that were used to develop the module are listed in this section. Also, major materials resources that relate to the competencies presented in the module are described and characterized.

INTRODUCTION

Career guidance personnel need help in maintaining an effective program for their clients. The increase in the number of people seeking career planning assistance, the paucity of preparation in career development in training institutions, the disproportionate amount of time spent on clerical and information-giving activities and the general lack of interest in career activities by many counseling staffs have resulted in an inadequate amount of assistance available to people seeking help in planning careers.

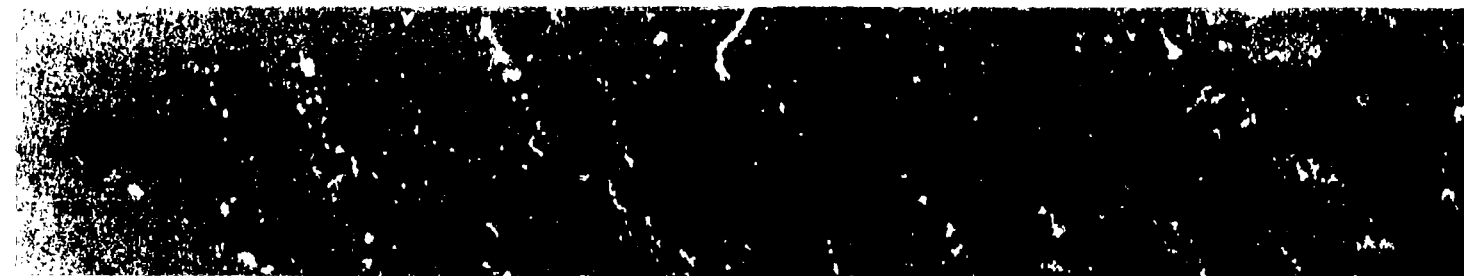
There is a critical need for increased and improved career guidance programs for the nation's youth and adults. **Computer technology** provides one way to **increase the quantity and the quality of services** to assist these youth and adults in planning for, entering, progressing in, and as needed, changing an occupation.

The computer can provide this assistance. It **will not**, as originally feared, **replace** the need for **personal assistance**. It can enhance and increase the value and effectiveness of career guidance personnel. It can, in essence, serve as a sophisticated paraprofessional that can provide valuable and efficient assistance in the performance of career guidance tasks.

The computer can (depending on the system):

- store and retrieve extensive masses of data in instantaneously accessible files.
- search through these extensive data files to identify a list of options that have the precise characteristics desired by the user of the system.
- merge data about the user with data about occupations and training opportunities.
- carry on personalized, structured interviews with an individual about career planning.
- serve many users simultaneously in a variety of places for many hours of the day with a personalized selection of content within the system.
- present occupational and career information and assistance in a totally objective way.
- assess an individual's relative position on a career planning continuum and provide assistance and treatment related directly to individual needs.
- control and deliver audio and visual materials in conjunction with the content (Bowlsey, 1978).

Types of Applications



The computer systems available to you and the career guidance program can be divided into three types: batch-processed vocational information systems, on-line vocational information systems, and on-line career guidance systems.

Batch-Processed Vocational Information Systems

These systems were very popular in the early days of computerized assistance in guidance and are in use today in some career guidance programs. Such systems are usually **commercial and limited to an information-giving function**.

The users, in seeking information, do not come into contact with the computer in these systems. They are making what the National Vocational Guidance Association's (NVGA) Commission on Computer Assisted Guidance Systems labeled an "indirect inquiry" (Harris, 1972). The user fills out a **questionnaire** and indicates preferences and priorities in regard to characteristics desired in a college or occupation. For example, the user would specify the desired location of a college, its enrollment, majors, and financial aids. These and other criteria such as the user's grades and test scores are indicated on the questionnaire that is mailed with a fee to a processing center. After a few days or a few weeks (depending on the processing center) the user receives a computer-printed response indicating a list of colleges (or occupations or financial aids) that best meet the selection criteria and personal data via the questionnaire.

Characteristics of the batch-processed systems are described below.

1. A **time-lag** exists between asking for information and receiving it.
2. The user must **select all choice criteria** prior to receiving feedback. For example, choosing an unusual college major and a specific college geographic location could greatly reduce the options reported by the computer. Since users are often unaware of the narrowing effect the combination of specific criteria may have, the entire process may need to be repeated.
3. Although the computer will match user criteria with colleges, occupations, financial aids, or whatever, the user may be **unaware of near misses**--e.g., those occupations or colleges that meet all but one or two of the selection criteria.
4. **No maintenance** of the computer is needed by the agency employing it.

On-line Vocational Information Systems

Most computer-based career guidance systems in use today are of this type. These systems classified by the NVGA Commission as "**direct inquiry without monitoring**" allow the user access through a terminal (typewriter or television type) device connected to a computer by cable or phone line.

The user types commands (selects criteria) on a keyboard that cause the computer to search, select, and relay information to the user on a television type screen and/or in printed form. Basically, these systems **provide information** to the user. They do not store user records or monitor the user's progress. Their primary purpose is **quick access** to information on occupations, occupational descriptions, colleges, program descriptions, other training opportunities and financial aids. This information, depending on

the specific system you may choose, could be national in scope or limited to a specific state or area. Harris (1972, p. 7) described these systems as "a conversational, fast, organized, automated library."

Characteristics of the on-line vocational information systems are described below.

1. The user has **direct and immediate access** to the data.
2. The user can be **aware of the various combinations of selection criteria** and their narrowing effects on available options.
3. **Response** from the computer is **immediate**.
4. The user **can repeat the process** with different selection criteria without inconvenience or significant cost.

On-line Career Guidance Systems

While the on-line information systems provide users with information retrieval and file searching, the computerized career guidance systems (direct inquiry with monitoring) provide additional capabilities to enhance career programs and curricula. These include--

1. decision-making learning sequences,
2. values identification as they relate to career choices,
3. storage of personal data,
4. monitoring of individual user progress,
5. administration and interpretation of career development assessment instruments, and
6. simulation and gaming.

These systems offer the user a large variety of learning sequences and generally relieve career guidance personnel of relatively more of the formalized guidance tasks. They require a large computer owned or leased by a relatively large school district with at least one terminal for each five hundred students (Bowsbey, 1978).

Characteristics of the on-line career guidance systems are described below. In addition to the

characteristics listed for the on-line vocational information systems, the guidance systems--

1. store personal data,
2. may be used without the involvement of counselors in the process,
3. require more terminal time per user,
4. contain lengthy interactive dialogue (communication between the computer and the user),
5. teach various strategies in career planning and decision making and can be incorporated into a planned curriculum, and
6. have increased value for agencies and community colleges where the transiency of the population makes the provision of career guidance difficult. (Bowsbey, 1978)

Operational Computer-Assisted Systems

No attempt will be made here to summarize in detail the various evaluations made of the computerized systems in operation. It should be noted that few commercial, batch-processed systems are available to users. Several on-line systems are in use in approximately five hundred sites in the nation. Evaluations by users generally indicate increased self-knowledge, occupational knowledge, vocational exploration, and crystallization of career plans. Data from testing generally show an increase in vocational maturity (Campbell et al., 1978).

The following is a brief description of some of the operational computerized systems. It is highly advised that you research further the systems that interest you.

Programmed Assistance In Career Exploration (PACE) is a computerized batch process source of information about careers and education. This program is now being developed and tested by the McDonald Corporation. During its early stage of development it is being limited to McDonald's employees.

Employees may order any or all of the following six PACE packets:

1. **Exploring Careers** is an analysis of interests with corresponding occupations. In this packet the Strong-Campbell Interest Inventory is used for employees interested in careers requiring four years of college or advanced technical training. The Career Assessment Inventory is used with employees interested in immediate job entry or occupations requiring some post-secondary education.
2. **Career Descriptions** contains occupational descriptions and information on occupational activities, requirements, working conditions, earnings, employment trends and sources of additional information.
3. **Military Job Descriptions** contains information on jobs and activities in the armed forces.
4. **Exploring Colleges** provides specific descriptions of two or four-year colleges and matches the employee's requirements concerning location, affiliation, size and cost.
5. **Exploring Vocational and Technical Schools** is a data file that matches these schools with the interests and needs of the user.
6. **Exploring Financial Aids** provides information on general types of financial aid and financial aids by specific occupations and categories of users.

Each PACE packet contains a questionnaire that must be completed and mailed to the PACE computer center for processing. Packets are available to employees at cost. For further information write to Patricia Novick, McDonald's PACE Program, McDonald's System Inc., One McDonald's Plaza, Oak Brook, Illinois, 60531.

The Career Information System (CIS) is an on-line vocational information system which originated in Oregon and has since been adopted or adapted by several states. The system has the following six components:

1. An on-line questionnaire that assists users to assess interests and abilities leading to the identification of occupations in the data file.

2. Information (descriptions) about occupations. Local supply and demand data may also be available depending on the location of the system.
3. Information about training opportunities
4. References to further information.
5. Taped interviews with workers
6. Local resource persons

For further information write to: Dr. Bruce McKinlay, 247 Hendricks Hall, University of Oregon, Eugene, Oregon 97403.

The Guidance Information Systems (GIS) is a commercial on-line vocational information system offering the user a search of the following five data files:

1. Colleges
2. Graduate Schools
3. Specialized schools in some regions
4. Occupations
5. Financial Aids

The user receives a list of options and descriptive information about each. For further information write to: Time Share Corporation, Three Lebanon Street, Hanover, New Hampshire 03755.

The Computerized Vocational Information System (CVIS) is an on-line career guidance system which was developed at Willowbrook High School in Villa Park, Illinois. It is composed of three parts: the guidance system, the computer-assisted instruction system, and the administrative system.

The guidance system has the following ten subsystems:

1. Vocational exploration (junior high school)
2. Vocational exploration (senior high school)
3. Four-year college information

4. Community college information
5. Technical school information
6. Apprenticeship information
7. Military information
8. Local job search
9. Financial aids search
10. User registration

CVIS has been distributed broadly and a consortium of those presently using the system maintains data files and shares new developments. For more information write to: CVIS Distribution Center, Western Maryland College, Westminster, Maryland 21157.

The Education and Career Exploration System (ECES) is an on-line career guidance system operational in Genesee Intermediate School District in Flint, Michigan. ECES has five components four of which are on-line. The off-line component is a batch-process search of educational institutions. The four on-line components are exploration of 400 occupations with job duty samples, exploration of 400 postsecondary majors and teaching and practice of decision-making. For more information write to: Mr. Alva Mallory, 2413 West Maple Avenue, Genesee Intermediate School District, Flint, Michigan 48507.

The System for Interactive Guidance and Information (SIGI) is an on-line career guidance system that was developed by Educational Testing Service, Princeton, New Jersey and is designed for community college students. The system has the following four components:

1. Values, containing ten occupational values. This component assists users to study values and the occupations that may relate to the user's combination of them.

2. Information about occupations.
3. Prediction. The user can receive predictions of success in various courses of curricula.
4. Planning that includes structured assistance in implementing career choice.

For more information write to: Dr. Martin Katz, Educational Testing Service, Box 592, Princeton, New Jersey 08540.

DISCOVER: A Computer-based Career Guidance and Counselor-Administrative Support System. DISCOVER was implemented by some members of the CVIS development team. It is now maintained by and made available from a non-profit foundation. The main modules of the system are the following:

1. Entry--Explanation and use of the system and an optional career development survey.
2. Understanding values and playing a values game.
3. Learning decision-making and practicing decisions.
4. Learning how occupations can be grouped and browsing occupations.
5. Review of interests and strengths.
6. Listing occupations to explore.
7. Information about occupations.
8. Narrowing the list of occupations.
9. Exploring specific occupations including local jobs, financial aids, apprenticeships, postsecondary institutions and training and military information.

For more information write to: DISCOVER Foundation Inc., Box 363, Westminster, Maryland 21157.

Is a Computerized System for You?



In considering the implementation of a computer-assisted guidance system, you and others within your agency need to determine what **functions** of your career guidance program can and should be computerized. There are two levels of decision. The first concerns the questions of **need** for computerized assistance and of the functions it will perform. The second level of questions must address **implementation** of a specific system once you have decided that your program can benefit from computerized career guidance assistance.

What Will It Do? You, your staff, and the users must answer the following questions prior to thinking about the specific functions and information that you wish the computer to provide. The role the computer will play in your services to clients must be determined up front. Disagreements or confusion over the value of computer-assistance, its general functions, the financial commitment, and the like will impede if not destroy its effect and effectiveness.

The following questions require your attention:

1. What are the assessed needs in your program (staff, administration, community, and users)?
2. What are the goals and measurable objectives of your program?
3. What problems must be solved to meet these needs?
4. Is a computer-based system the most effective way to meet some of your objectives?

5. Which of your needs can best be met by approaches other than computer-assisted?
6. How will you insure that functions performed by the computer and those performed by staff will be complementary?
7. Will the computer assistance be extended to the curriculum? To administrative functions?
8. Is your staff supportive of the implementation of a computer-assisted system?
9. What, if any, current services will be curtailed or eliminated?
10. Is there sufficient knowledge and time on your staff to implement, maintain, and effectively use the system?
11. Will you provide inservice training to facilitate the effective use of the system?
12. Is the administration supportive of the implementation, personally as well as financially?
13. Is there long term funding available for this purpose?
14. Can the mechanics of implementation and operation be handled by your school or agency, or will additional computer personnel be necessary?
15. How will you evaluate the value and effectiveness of the system?

16. What is your implementation schedule?
17. What alternate plan do you have for meeting your objectives in the event the system must be eliminated?
18. Can you afford enough terminals?
19. Can you locate the terminal(s) where it (they) will be convenient for the guidance personnel and where the noise level of the terminal will not disturb other individuals?
20. How easily may clients be oriented to the use of the terminal? Must someone always or almost always assist a client in the use of the terminal?

21. If you are using a local computer, does it have adequate storage space for the system you want to use?
22. Does it have enough lines to accommodate the potential users of the program?

Once you and your staff have answers to these questions you are ready to begin shopping for a system to adopt or adapt to fit your situation. You now have an idea of what you want the computer-assisted system to do, which parts of your program it will assist, and a game plan for its use by your staff and those whom they serve. Now it is time to get specific. You have designed and constructed the mold. Internal parts must be selected or designed and put into place to provide the information and assistance you need in your agency.

Comparing Systems

Competency 1

Competency 2

At this point in your search for computerized assistance you will have a good idea of why you want the computer system and how it will fit into your program. Your needs assessment, financial situation, staff support and program evaluation will tell you what output you are seeking. For example, you should know which of the following goals you expect the computer system to assist you in reaching.

- Provision of current labor market information
- Provision of occupational information
- Provision of educational information
- Provision of training information
- Integration of career information into your total program

- Improved occupational training and career choices
- Relating personal characteristics to career alternatives
- Development and enhancement of decision-making abilities
- Facilitation of information retrieval by staff to assist clients
- Utilization of the computer as an interactive part of your counseling service
- Provision of administrative assistance
- Provision of curriculum (instruction) assistance
- Provision of values identification
- Assistance in your testing program

Knowing, in a general way, what you expect of your computer-assisted system you can specify which of the available systems meet your goals and objectives. Other remaining questions are as follows:

1. What reading level is most appropriate for your users?
2. What age or grade span is covered by the system?
3. How many occupations would you consider appropriate for your users?
4. How lengthy should occupational/educational descriptions be?
5. How should occupations be grouped to best serve your program?
6. How can the information be grouped to fit your current program?
7. How often should the information be updated?
8. Which method of display do you require (screen, hardcopy, combination)?
9. Is the system cost effective? (Present systems cost from two to six dollars per hour at the terminal.)
10. Is the system free of race and sex bias?
11. Is the content of the system based on good career development theory?
12. Are instructions for users easily understood?
13. Do you want national, state, regional, local information?
14. What should the occupational information data contain (nature of the occupation, working conditions, worker traits, advancement opportunities, entry methods, related occupations, advantages and disadvantages, earnings, current employment data, outlook)?
15. What should the education and training data contain (types of educational training, enrollment procedures, rules, degrees, placement, housing, admission requirements, costs, programs, handicapped arrangements, apprenticeships)?
16. Will you have a scholarship and financial aids file (types, availability, application procedures, eligibility)?
17. Will you have a military file?
18. How will your other resources be coordinated with the computer system (multi-media, job briefs, college information, publications)?
19. Will you have an employers' file (company profiles, training programs, hiring policies, advancement, field trips/visits)?
20. Will you have data for special populations (women's resources, child care centers, legal services, minority resources, handicapped resources)?
21. Will you have a job-seeking skills file (interviewing, applications, job search strategies, resume preparation)?

22. Do you wish updating and change capabilities (access) to allow you to enter and retrieve your local data?

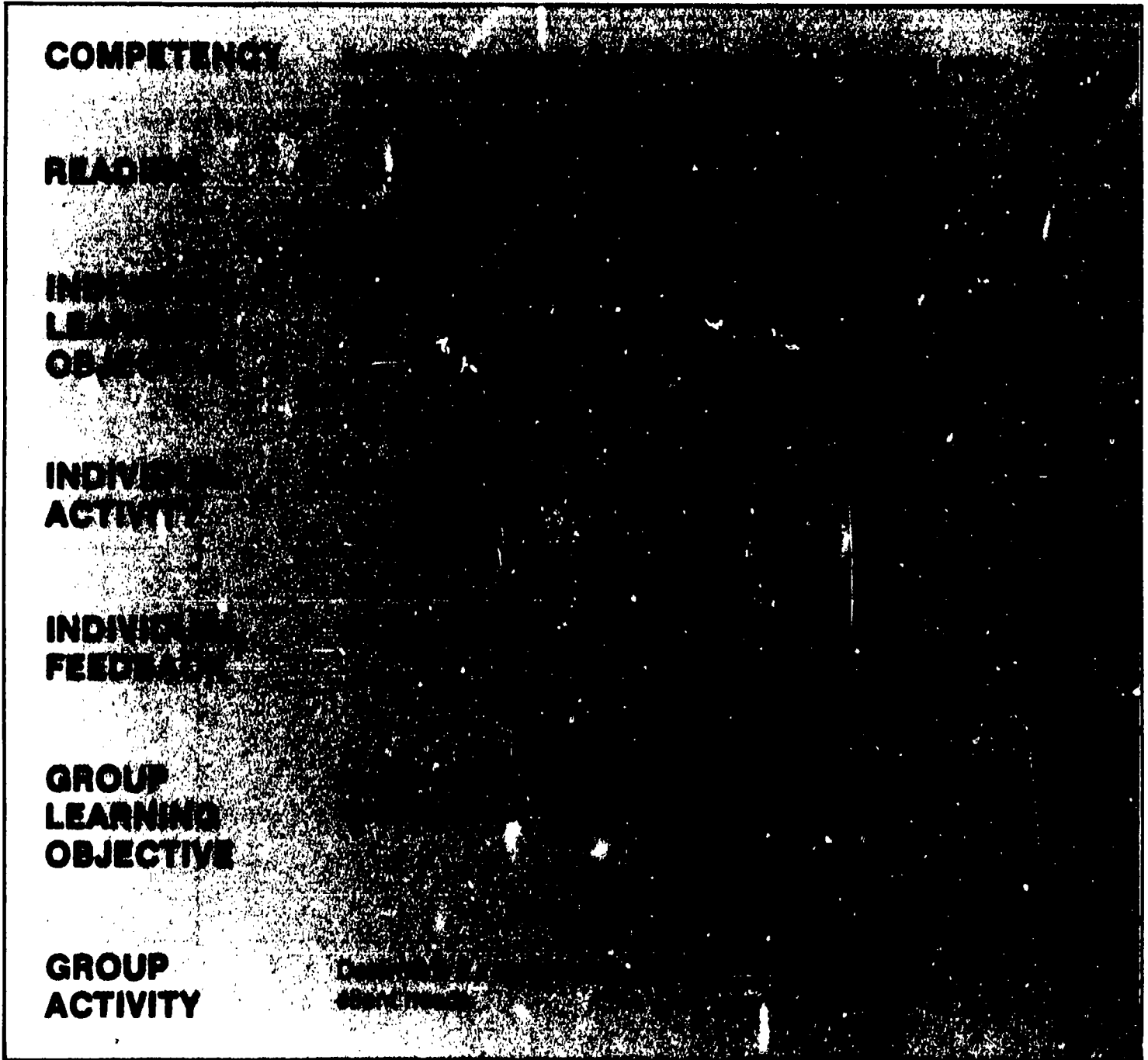
There are **advantages and disadvantages to each system** based upon your needs. Usually, none of the available systems will fulfill all of your exact requirements. You must then decide, based on your priorities and resources, which of the systems you will adopt or adapt. Not all systems can be adapted to meet your specific requirements. In addition, any changes will require a commitment of both time and money. You must decide if the added features are worth it.

As you can see, choosing a computer-assisted guidance system is not (or should not be) a simple task. Your local needs must first determine if a computer system is for you and then must specify which system best meets the needs of your staff and clients or students. The uniqueness of your situation may dictate the need for developing and implementing your own system. By following the guidelines set down in this module you will be able to determine what system is for you and, be in a better position to insure its effective utilization.

Learning Experience 1

Types of Computer Applications

OVERVIEW



INDIVIDUAL ACTIVITY

Match client needs to computer applications.

First, read Competency 1 on page 7. Then complete the following matrix. With the matrix, you will match your clients' needs to the type of computer application best able to meet those needs. Under each of the headings on the left side of matrix, list specific client needs. The top of the matrix lists three computer application types. Check the intersections where you think a computer application can assist in meeting a client need. When determining the computer application, keep in mind the constraints of your agency and clients. The matrix provides easy visual reference on how well each computer application meets your needs.

COMPUTER APPLICATIONS AND NEEDS MATRIX

	Batch-Processed Vocational Information System	On-Line Vocational Information System	On-Line Vocational Guidance System
1. Knowledge of individual characteristics and requirements of different careers and occupations			
2. The relationship of individual characteristics to occupational requirements			
3. Planning for career development and change			
4. Improvement of career and occupational capabilities			
5. Possession of skills that are used in the world of work			
6. Effective work habits			
7. Positive attitudes toward work			



Meet with a colleague and discuss your completed matrix. Together decide if you selected the appropriate computer application. Also, it could be useful to contact the people listed after each computer program description in the module text and obtain additional information.



Note: The following outline is to be used by the workshop facilitator.

Facilitator's Outline	Notes
<p>A. Start Activity</p> <ol style="list-style-type: none">1. Be sure participants have completed the reading for Competency 1 on page 7 or present the information to them.	<p>Show the transparency "Types of Computer Applications."</p>

Facilitator's Outline	Notes													
<p>2. Have participants determine a common set of client needs using the needs listed on the matrix in the individual activity.</p> <p>B. Determine Features of Computer Applications</p> <p>1. On the chalkboard or newsprint, place the following headings:</p> <ul style="list-style-type: none"> • Batch-processed vocational information systems • On-line vocational information systems • On-line career guidance systems <p>2. Ask participants to describe features or characteristics of each system, and record information under the proper heading.</p> <p>C. Developing a Matrix</p> <p>1. Use the framework presented below to develop a matrix.</p> <p style="text-align: center;">Types of Computer Systems</p> <table border="1" data-bbox="327 1392 819 1687"> <tr> <td data-bbox="154 1416 318 1540" rowspan="4">Identified Client Needs</td> <td data-bbox="327 1392 491 1466"></td> <td data-bbox="491 1392 655 1466"></td> <td data-bbox="655 1392 819 1466"></td> </tr> <tr> <td data-bbox="327 1466 491 1540"></td> <td data-bbox="491 1466 655 1540"></td> <td data-bbox="655 1466 819 1540"></td> </tr> <tr> <td data-bbox="327 1540 491 1613"></td> <td data-bbox="491 1540 655 1613"></td> <td data-bbox="655 1540 819 1613"></td> </tr> <tr> <td data-bbox="327 1613 491 1687"></td> <td data-bbox="491 1613 655 1687"></td> <td data-bbox="655 1613 819 1687"></td> </tr> </table> <p>2. Indicate on the matrix how many of the participants felt each type of computer application could be used to meet an identified need. For example, if three participants thought the first need could be met by a batch-processed vocational information system the number 3 would be placed in that square of the matrix.</p>	Identified Client Needs													<p>It is helpful to have brochures on specific computer systems.</p>
Identified Client Needs														

Facilitator's Outline	Notes
<p data-bbox="203 327 384 364">D. Summary</p> <ol data-bbox="256 404 857 660" style="list-style-type: none"><li data-bbox="256 404 857 512">1. Ask participants to discuss why they choose various computer applications to meet needs.<li data-bbox="256 551 857 660">2. Wrap up the activity by indicating that different computer applications can be used to meet various needs.	

NOTES

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TYPES OF COMPUTERS

**BATCH-PROCESSED VOCATIONAL INFORMATION
SYSTEMS**

ON-LINE VOCATIONAL INFORMATION SYSTEMS

ON-LINE CAREER GUIDANCE SYSTEMS

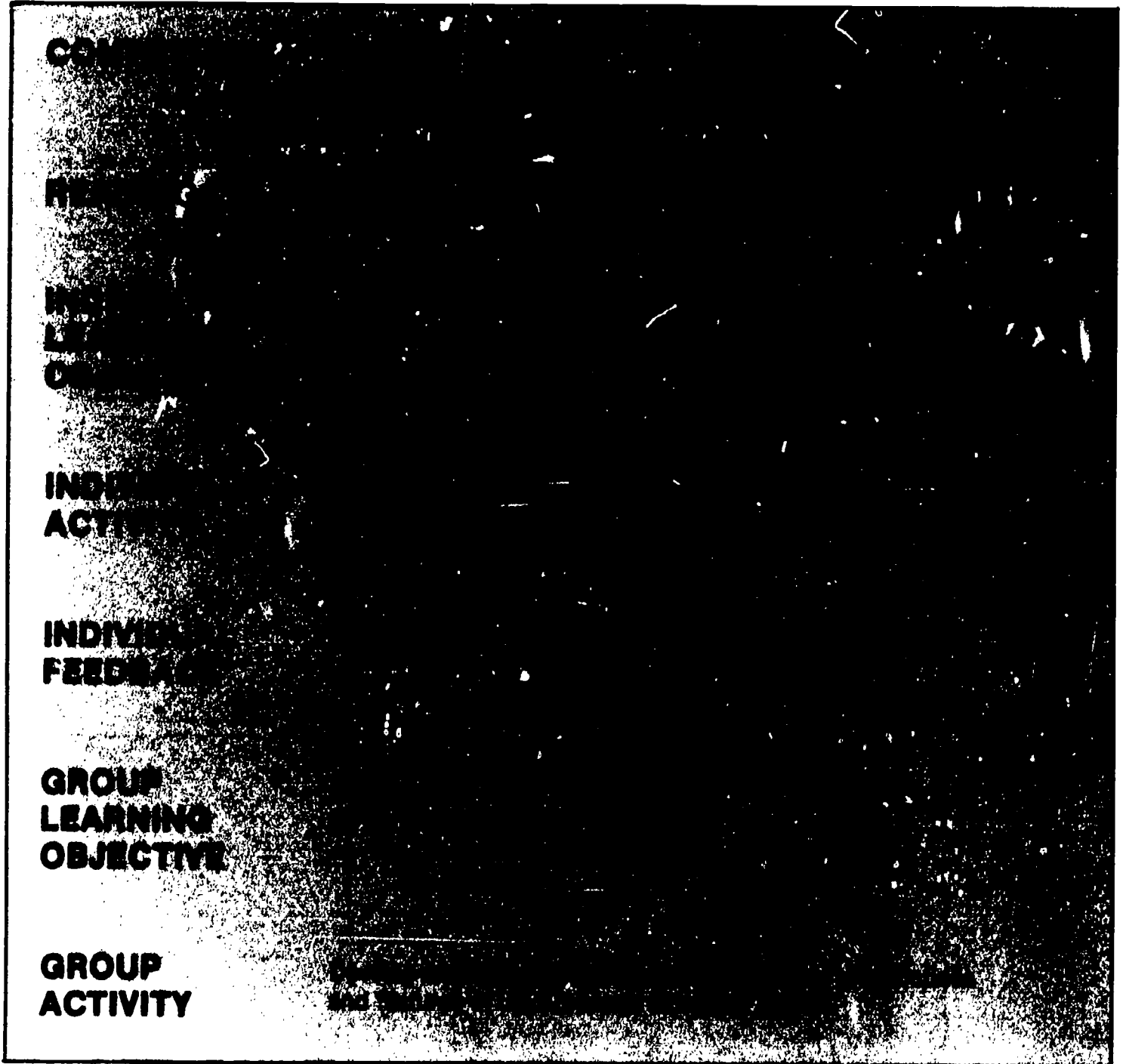
NOTES

Lined area for notes, consisting of approximately 25 horizontal lines.

Learning Experience 2

Is a Computerized System for You?

OVERVIEW



INDIVIDUAL ACTIVITY

Identify the components of your career guidance program and determine which of these can be enhanced through the use of a computer.

Prior to starting this activity, read Competency 2 on page 11. Complete the following worksheet to determine if a computer can enhance your program.

Under each activity heading list specific activities performed by your staff (e.g., decision-making programs, values clarification activities, use of specific appraisal instruments or techniques).

Place a check mark next to each activity that **could** be enhanced by use of a computer. Place another check mark next to those activities you think should be assisted by use of a computer.

In the staff column, write the names of staff members responsible for each activity. If all staff members are involved in an activity, write staff and indicate who would have primary responsibility for computerization of the activity.

Assuming that those aspects of your program that "could" or "should" be computerized cannot be computerized at the same time, you need to determine priorities. Priorities should be based on need and resources. Place "1" next to the activity that is your top priority to conversion to computer assistance. Then assign "2" to the next priority, and so on. You now have developed an overview of how a computer system can enhance your guidance program.

WORKSHEET

Priority	Activities	Check Marks	Staff
	I. Services to clients <ul style="list-style-type: none"> • orientation <hr/> <hr/> <hr/> <hr/> <ul style="list-style-type: none"> • individual appraisal <hr/> <hr/> <hr/> <hr/>		

Worksheet page 2

Priority	Activities	Check Marks	Staff
	<ul style="list-style-type: none"> • career counseling <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none"> • individual counseling <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none"> • individual scheduling <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none"> • group activities <hr/> <hr/> <hr/> <hr/>		
	<p>II. Services to staff</p> <ul style="list-style-type: none"> • assistance with client problems <hr/> <hr/> <hr/> <hr/>		

Worksheet page 3

Priority	Activities	Check Marks	Staff
	<ul style="list-style-type: none"> • individual client appraisal <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none"> • test interpretation <hr/> <hr/> <hr/> <hr/>		
	<p>III. Services to the community</p> <ul style="list-style-type: none"> • parent conferences <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none"> • surveys <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none"> • liaison and public relations <hr/> <hr/> <hr/> <hr/>		

Worksheet page 4

Priority	Activities	Check Marks	Staff
	<ul style="list-style-type: none">• adult education <hr/> <hr/> <hr/> <hr/>		
	<p>IV. Services to institution</p> <ul style="list-style-type: none">• curriculum development <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none">• special program development <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none">• evaluation of services <hr/> <hr/> <hr/> <hr/>		
	<ul style="list-style-type: none">• follow-up studies <hr/> <hr/> <hr/> <hr/>		

Worksheet page 5

Priority	Activities	Check Marks	Staff
	<ul style="list-style-type: none">• staff development programs <hr/> <hr/> <hr/> <hr/> <ul style="list-style-type: none">• scheduling <hr/> <hr/> <hr/> <hr/>		

...in your setting.

Once you have completed your priority listing, have it reviewed by a coworker. Explain what you have done and ask this individual to review your work. After the coworker has reviewed your list, discuss your priorities to determine if your thinking is in line with others.



Note: The following outline is to be used by the workshop facilitator.

Facilitator's Outline	Notes
<p>A. Introduce Activity</p> <ol style="list-style-type: none">1. Have participants complete the reading for Competency 2 on page 11 or present the information to them.2. Discuss any questions participants have regarding the above information.3. Explain that participants will be developing a staff questionnaire regarding the type of computer system that should be placed in their settings. (For the purpose of this activity the participants will role play staff in an employment securities office or another common setting.) <p>B. Develop Questionnaire</p> <ol style="list-style-type: none">1. Establish a framework for questionnaire items. The listing of services provided in the Individual Activity can serve this purpose.2. Establish a format for the questionnaire. Will questions be open ended, forced choice, Likert scale?	

Facilitator's Outline	Notes
<p>3. Have participants brainstorm suggestions for questionnaire items. Record the responses on the chalkboard or newsprint.</p> <p>4. Categorize item suggestions into various aspects of the career guidance program. For example, information dissemination, group counseling, record keeping, etc.</p> <p>5. Divide participants into small groups (three or four groups) and assign each group a different category of the questionnaire to develop. Remind the groups that the purpose of the questionnaire is to elicit staff input concerning the role and function of the computer system and various specific computer services that they feel are needed to meet client needs.</p> <p>C. Pull the Questionnaire Together</p> <p>1. Have the groups share the items that they have developed.</p> <p>2. Discuss any concerns brought up.</p> <p>3. Indicate that the items developed might represent a portion of a questionnaire that would be used with staff.</p>	

Learning Experience 3

Comparing Systems

OVERVIEW

COMPETENCIES	<p>Compare the advantages and disadvantages of available computerized career guidance systems of the type desired in areas such as cost, system features, availability, adaptability, implementation and maintenance requirements, and potential benefits.</p> <p>Explain the capabilities and use of selected computerized career guidance systems to individuals or groups of clients, understand clients' interactions with the computer, and analyze changes to either the system or the program.</p>
READING	
INDIVIDUAL LEARNING OBJECTIVE	<p>Describe available computer systems and how they relate to your program needs and resources.</p>
INDIVIDUAL ACTIVITY	<p>Make a list of your program components and compare it with components of the available computer-assisted systems.</p>
INDIVIDUAL FEEDBACK	<p>Compare your checklist to the sample format.</p>
GROUP LEARNING OBJECTIVE	<p>Identify the systems available that can provide computer assistance to your current services for clients.</p>
GROUP ACTIVITY	<p>Discuss how various systems could be modified to meet unique aspects of your local programs.</p>

INDIVIDUAL ACTIVITY

Make a list of your program components and compare it with the components of the available computer-assisted systems.

Review the reading for Competency 1 on page 7 and the reading for Competencies 3 and 4 on page 12. Use the list of services given in Learning Experience II to specify the exact content of your current program. List under each heading the specific activities now performed by your staff. For example, under individual appraisal list the appraisal instruments and techniques that you use. Next to each of your program activities place a check mark beside each item that could or should be enhanced by the use of a computer. (If you have already completed this activity as part of Learning Experience II, use the list developed for that exercise.) Next to these checked items write the name(s) of an available computer-assisted guidance system that includes a module or component for this service.

Using the content of the reading for Competencies 3 and 4, you are now ready to investigate in depth those systems you have identified from your list. You will need to talk with representatives of the various systems, or visit operational sites, and study the descriptive and evaluative literature available for the systems.

INDIVIDUAL FEEDBACK

Compare your checklist to the sample format.

I. Services to clients

(specific activities such as overview of program)

A. Orientation

1. _____
2. _____
3. _____

Could be enhanced by computer

NAME OF COMPUTER SYSTEM

	X	CVIS
	X	SIGI

B. Individual Appraisal

(specific activities such as interest inventories, aptitude tests)

1. _____
2. _____
3. _____

	X	DISCOVER
	X	DISCOVER

GROUP ACTIVITY

Note: This outline is to be used by the workshop facilitator.

Facilitator's Outline	Notes
<p>A. Introduce Activity</p> <ol style="list-style-type: none"> 1. Have participants review the reading or present the information to them. 	

Facilitator's Outline	Notes
<p>2. Explain that participants will be discussing how various computer systems can be modified to meet the needs of individual settings.</p> <p>B. Matching Program Elements to Computer Systems</p> <ol style="list-style-type: none"> 1. Have participants brainstorm elements of a career guidance program and record the responses on the chalkboard or newsprint. 2. List next to each element the programs that are most applicable for that element. 3. If more than one system is mentioned for each component, lead a discussion on why there were differing responses. <p>C. Adopting Systems</p> <ol style="list-style-type: none"> 1. Lead a discussion on how systems could be adopted, time and talent needed for changes, and benefits versus costs of changes. Use the reading for Competencies 3 and 4 as the framework for this discussion. 2. Lead a discussion on whether program elements should be modified or eliminated to accommodate the implementation of computer assistance. 3. Have participants think about how they could adopt a system. <p>D. Summary</p> <ol style="list-style-type: none"> 1. Identify unanswered questions from the text that need clarification through further investigation of specific systems. 2. Aid participants in learning of ways to answer questions. 	

EVALUATION

PARTICIPANT SELF-ASSESSMENT QUESTIONNAIRE

1 Name (Optional) _____ 3. Date _____

2. Position Title _____ 4. Module No. _____

Agency Setting (Circle the appropriate number)

- | | | | |
|------------------------|-----------------|-----------------------------------|---------------------------|
| 6 Elementary School | 10. JTPA | 14. Youth Services. | 18. Municipal Office. |
| 7 Secondary School | 11 Veterans. | 15. Business/Industry Management. | 19. Service Organization. |
| 8 Postsecondary School | 12 Church | 16 Business/Industry Labor. | 20. State Government. |
| 9 College/University | 13 Corrections. | 17. Parent Group. | 21. Other. |

Workshop Topics	PREWORKSHOP NEED FOR TRAINING Degree of Need (circle one for each workshop topic).					POSTWORKSHOP MASTERY OF TOPICS Degree of Mastery (circle one for each workshop topic).				
	None	Slight	Some	Much	Very Much	Not Taught	Little	Some	Good	Outstanding
1. Listing the three general types of computer applications and relating them to client needs.	0	1	2	3	4	0	1	2	3	4
2. Identifying which type of computer application can help meet each client need.	0	1	2	3	4	0	1	2	3	4
3. Listing the various components of your guidance program that can be assisted by a computer system.	0	1	2	3	4	0	1	2	3	4
4. Constructing a priority-based schedule for implementing a computer-assisted guidance system.	0	1	2	3	4	0	1	2	3	4
5. Describing available computer systems and how they relate to your program needs and resources.	0	1	2	3	4	0	1	2	3	4
6. Identifying the systems available that can provide computer assistance to your current services for clients.	0	1	2	3	4	0	1	2	3	4
Overall Assessment on Topic of Computerized Guidance	0	1	2	3	4	0	1	2	3	4

Comments:

NOTES

Lined area for notes, consisting of multiple horizontal lines.

Trainer's Assessment Questionnaire

Trainer: _____ Date: _____ Module Number: _____

Title of Module: _____

Training Time to Complete Workshop: _____ hrs. _____ min.

Participant Characteristics

Number in Group _____ Number of Males _____ Number of Females _____

Distribution by Position

_____ Elementary School	_____ Veterans	_____ Business/Industry Labor
_____ Secondary School	_____ Church	_____ Parent Group
_____ Postsecondary School	_____ Corrections	_____ Municipal Office
_____ College/University	_____ Youth Services	_____ Service Organization
_____ JTPA	_____ Business/Industry Management	_____ State Government
		_____ Other

Part I

WORKSHOP CHARACTERISTICS--Instructions: Please provide any comments on the methods and materials used, both those contained in the module and others that are not listed. Also provide any comments concerning your overall reaction to the materials, learners' participations or any other positive or negative factors that could have affected the achievement of the module's purpose.

1. *Methods:* (Compare to those suggested in Facilitator's Outline)

2. *Materials:* (Compare to those suggested in Facilitator's Outline)

3. *Reaction:* (Participant reaction to content and activities)

PART II

WORKSHOP IMPACT--Instructions: Use Performance Indicators to judge degree of mastery. (Complete responses for all activities. Those that you did not teach would receive 0.)

Group's Degree of Mastery

Not Taught	Little (25% or less)	Some (26%-50%)	Good (51%-75%)	Outstanding (over 75%)
---------------	-------------------------	-------------------	-------------------	---------------------------

Note: Circle the number that best reflects your opinion of group mastery.

Learning Experience 1

Group	0	1	2	3	4
Individual	0	1	2	3	4

Learning Experience 2

Group	0	1	2	3	4
Individual	0	1	2	3	4

Learning Experience 3

Group	0	1	2	3	4
Individual	0	1	2	3	4

Code:

Little: With no concern for time or circumstances within training setting if it appears that less than 25% of the learners achieved what was intended to be achieved.

Some: With no concern for time or circumstances within the training setting if it appears that less than close to half of the learners achieved the learning experience.

Good: With no concern for time or circumstances within the training setting if it appears that 50%-75% have achieved as expected.

Outstanding: If more than 75% of learners mastered the content as expected.

PART III

SUMMARY DATA SHEET--Instructions: In order to gain an overall idea as to mastery impact achieved across the Learning Experiences taught, complete the following tabulation. Transfer the number for the degree of mastery on each Learning Experience (i.e., group and individual) from the Workshop Impact form to the columns below. Add the subtotals to obtain your total module score.

GROUP		INDIVIDUAL	
Learning Experience		Learning Experience	
1 score (1-4)	_____	1 = score (1-4)	_____
2 = score (1-4)	_____	2 = score (1-4)	_____
3 score (1-4)	_____	3 = score (1-4)	_____
Total (add up)	_____	Total (add up)	_____

Total of the GROUP learning experience scores and INDIVIDUAL learning experience scores = _____ . Actual Total Score _____ Compared to Maximum Total* _____ .

*Maximum total is the number of learning experiences taught times four (4).

NOTES

Lined writing area for notes.

Performance Indicators

As you conduct the workshop component of this training module, the facilitator's outline will suggest individual or group activities which require written or oral responses. The following list of **performance indicators** will assist you in assessing the quality of the participants' work.

Module Title: *Conduct Computerized Guidance*

Module Number: CG C-3

Group Learning Activity	Performance Indicators to Be Used for Learner Assessment
<p>Group Activity Number 1:</p> <p>Determine if a computer application is an effective way to meet client information needs.</p>	<ol style="list-style-type: none">1. Participants can identify the three types of systems--<ul style="list-style-type: none">• batch processing• on-line vocational information• on-line career guidance assistance2. Participants can list their clients' needs (e.g., information, exploration, testing, etc., where a computer might be helpful).3. Can participants compare client/group needs to a guidance computer program that is available?
<p>Group Activity Number 2:</p> <p>Develop a staff questionnaire to elicit input into the functions and features of a proposed computer system.</p>	<ol style="list-style-type: none">1. Participants should have the list of potential services offered broken out as listed in the reading.<ul style="list-style-type: none">• service to clients,• service to staff,• service to community, and• service to institution.2. Is question format and structure clear and approximately the same?3. Review items for precise wording.4. Will the results answer the question of what the system should have?

Group Activity Number 3:

Determine how various computer systems can be modified to meet the unique aspects of your guidance program.

1. Participants should list full ranges of services which a career guidance program could offer.
 2. Identify which of these services **could easily** be offered via a computerized system.
 3. Identify which components **might** be offered via computer if **modifications** were made.
-

REFERENCES

Campbell, Robert; Rodebaugh, Helen; and Shaltry, Paul. *Building Comprehensive Career Guidance Programs for Secondary Schools: A Handbook of Programs, Practices, and Models*. Columbus, Ohio: National Center for Research in Vocational Education, The Ohio State University, 1978.

Harris, Jo Ann. *Tested Practices: Computer Assisted Guidance Systems*. Washington, DC: The National Vocational Guidance Association, 1972.

Harris-Bowlsbey, Jo Ann. "Careers by Special Delivery." In *New Imperatives for Guidance*, edited by Garry Walz and Libby Benjamin. Ann Arbor: ERIC Counseling and Personnel Services Clearinghouse, The University of Michigan, 1978.

ADDITIONAL RESOURCES

Materials listed below can provide you with additional knowledge for implementing computerized guidance systems. Ideas from some of these resource materials were used in the module itself.

New Imperatives for Guidance. Garry R. Walz and Libby Benjamin, eds., 1978. ERIC Counseling and Personnel Services Clearinghouse, School of Education, The University of Michigan, Ann Arbor, Michigan.

Chapter 9 of this book, "Careers by Special Delivery," by Jo Ann Harris-Bowlsbey presents alternative ways of offering guidance services by providing a comprehensive description of how computers can be useful in delivering a guidance program. She describes three types of systems in detail and outlines ways to use them in secondary school settings.

Tested Practices: Computer Assisted Guidance Systems. Jo Ann Harris, ed., 1972. National Vocational Guidance Association, American Association of Counseling and Development, Alexandria, VA, 24 pages.

This monograph is addressed specifically to counselors and administrators. It identifies the computer's present involvement in guidance and summarizes what is being learned from present operational systems (about students, parents, and counselors). It provides guidelines for the evaluation or development of three types of systems: 1) computer-assisted guidance systems; 2) indirect inquiry systems; and 3) direct inquiry systems (without monitoring and with monitoring). The booklet also contains a four-page listing of sources of information.

NOTES

Handwritten notes on lined paper, including the words "NOTES" at the top and "44" and "46" at the bottom.

KEY PROJECT STAFF

The Competency-Based Career Guidance Module Series was developed by a consortium of agencies. The following list represents key staff in each agency that worked on the project over a five-year period.

The National Center for Research in Vocational Education

Harry N. Drier Consortium Director
 Robert E. Campbell Project Director
 Linda A. Pfister Former Project Director
 Robert Bhaerman Research Specialist
 Karen Kimmel Boyle Program Associate
 Fred Williams Program Associate

American Institutes for Research

G. Brian Jones Project Director
 Linda Phillips-Jones Associate Project Director
 Jack Hamilton Associate Project Director

University of Missouri-Columbia

Norman C. Gysbers Project Director

American Association for Counseling and Development

Jane Howard Jasper Former Project Director

American Vocational Association

Wayne LeRoy Former Project Director
 Roni Posner Former Project Director

U.S. Department of Education, Office of Adult and Vocational Education

David Pritchard Project Officer
 Holli Condon Project Officer

A number of national leaders representing a variety of agencies and organizations added their expertise to the project as members of national panels of experts. These leaders were--

Ms. Grace Basinger
 Past President
 National Parent-Teacher
 Association

Dr. Frank Bowe
 Former Executive Director

Ms. Jane Razeghi
 Education Coordinator
 American Coalition of Citizens
 with Disabilities

Mr. Robert L. Craig
 Vice President
 Government and Public Affairs
 American Society for Training
 and Development

Dr. Walter Davis
 Director of Education
 AFL-CIO

Dr. Richard DiEugenio
 Senior Legislative Associate
 (representing Congressman Bill
 Goodling)
 House Education and Labor
 Committee

Mr. Oscar Gjernes
 Administrator (Retired)
 U.S. Department of Labor
 Division of Employment and
 Training

Dr. Robert W. Glover
 Director and Chairperson
 Federal Committee on
 Apprenticeship
 The University of Texas at Austin

Dr. Jo Hayslip
 Director of Planning and
 Development in Vocational
 Rehabilitation
 New Hampshire State Department
 of Education

Mrs. Madeleine Hemmings
 National Alliance for Business

Dr. Edwin Herr
 Counselor Educator
 Pennsylvania State University

Dr. Elaine House
 Professor Emeritus
 Rutgers University

Dr. David Lacey
 Vice President
 Personnel Planning and Business
 Integration
 CIGNA Corporation

Dr. Howard A. Matthews
 Assistant Staff Director
 Education (representing Senator
 Orrin G. Hatch)
 Committee on Labor and Human
 Resources

Dr. Lee McMurrin
 Superintendent
 Milwaukee Public Schools

Ms. Nanine Meiklejohn
 Assistant Director of Legislation
 American Federation of State,
 County and Municipal Employees

Dr. Joseph D. Mills
 State Director of Vocational
 Education
 Florida Department of Education

Dr. Jack Myers
 Director of Health Policy Study and
 Private Sector Initiative Study
 American Enterprise Institute

Mr. Reid Rundell
 Director of Personnel Development
 General Motors Corporation

Mrs. Dorothy Shields
 Education
 American Federation of Labor/
 Congress of Industrial
 Organizations

Dr. Barbara Thompson
 Former State Superintendent
 Wisconsin Department of Public
 Instruction

Ms. Joan Wills
 Director
 Employment and Training Division
 National Governors' Association

Honorable Chalmers P. Wylie
 Congressman/Ohio
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Competency-Based Career Guidance Modules

CATEGORY A: GUIDANCE PROGRAM PLANNING

- A-1 Identify and Plan for Guidance Program Change
- A-2 Organize Guidance Program Development Team
- A-3 Collaborate with the Community
- A-4 Establish a Career Development Theory
- A-5 Build a Guidance Program Planning Model
- A-6 Determine Client and Environmental Needs

CATEGORY B: SUPPORTING

- B-1 Influence Legislation
- B-2 Write Proposals
- B-3 Improve Public Relations and Community Involvement
- B-4 Conduct Staff Development Activities
- B-5 Use and Comply with Administrative Mechanisms

CATEGORY C: IMPLEMENTING

- C-1 Counsel Individuals and Groups
- C-2 Tutor Clients
- C-3 Conduct Computerized Guidance
- C-4 Infuse Curriculum-Based Guidance
- C-5 Coordinate Career Resource Centers
- C-6 Promote Home-Based Guidance

- C-7 Develop a Work Experience Program
- C-8 Provide for Employability Skill Development
- C-9 Provide for the Basic Skills
- C-10 Conduct Placement and Referral Activities
- C-11 Facilitate Follow-through and Follow-up
- C-12 Create and Use an Individual Career Development Plan
- C-13 Provide Career Guidance to Girls and Women
- C-14 Enhance Understanding of Individuals with Disabilities
- C-15 Help Ethnic Minorities with Career Guidance
- C-16 Meet Initial Guidance Needs of Older Adults
- C-17 Promote Equity and Client Advocacy
- C-18 Assist Clients with Equity Rights and Responsibilities
- C-19 Develop Ethical and Legal Standards

CATEGORY D: OPERATING

- D-1 Ensure Program Operations
- D-2 Aid Professional Growth

CATEGORY E: EVALUATING

- E-1 Evaluate Guidance Activities
- E-2 Communicate and Use Evaluation-Based Decisions

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