

SKILLS, is a computerized career development tool that combines a self-assessment with an occupational database. In SKILLS, users identify transferrable skills they enjoy using, then the software identifies occupations that use these skills. SKILLS users learn which occupations best match their skills and the skills their favorite occupations use most.

# **SKILLS**

# **Counselor's**

# **Manual**

intoCareers, 2014

---

# SKILLS Counselor's Guide

## Table of Contents

---

SKILLS Counselor's Guide .....	1
Table of Contents .....	2
Section 1: Introduction to SKILLS .....	3
Section 2: SKILLS and the Self-assessment of Skills .....	6
Section 3: Administering SKILLS .....	13
Section 4: Additional Information about SKILLS .....	20
Appendix A: Expanded Skills Definitions .....	23
Appendix B: Interpreting Your SKILLS Results .....	29
Appendix C: Matching Skills to Occupations .....	32
Appendix D: 10 Things to Remember about SKILLS .....	33

# SKILLS Counselor's Guide

## Section 1: Introduction to SKILLS

---

The Career Information System (CIS) is part of a national network of state-based career information delivery systems. The states in the network share resources and program developments. Marilyn Maze and Don Mayall of EUREKA, the California Career Information System, designed and developed a product called the EUREKA Skills Inventory in 1980. After three years of development and experimental use, the product was released nationally in January, 1982. Oregon CIS secured a license to SKILLS and began using it in 1983.

Georgia CIS licensed this software and rewrote it for individual CIS state-coding. CIS states now license the SKILLS software from Georgia CIS. This manual is largely the work of the Oregon Career Information System (2006). Portions were adapted from the EUREKA *Skills Assessment: Counselors' Manual* (1983) and the Georgia CIS *Micro-SKILLS Counselor's Manual* (1991).

### ***What Is SKILLS?***

SKILLS, is a computerized career development tool that combines a self-assessment assessment with an occupational database. SKILLS uses a simple concept to produce valuable insights. Users identify skills they enjoy using; then a computer program identifies occupations that use these skills. The users learn which occupations best match their skills and which skills their favorite occupations use most. Since the assessment's creation in the fall of 1980, these two types of information have dramatically enhanced the career and self-awareness of thousands of career planners.

Unlike most career assessments, SKILLS requires users to complete a preparatory step. This skills analysis process is extremely valuable to users; it is described further in Section 2.

An individual (client or student) begins using SKILLS in one of two ways—by sorting cards or completing a worksheet. Both the worksheet and the card sort take you through a process of selecting skills from the list of seventy-two skills. Using the worksheet, you review past achievements to decide which skills are most satisfying. Then you select the five most satisfying skills (designated “Very Satisfying”), the next ten most satisfying skills (designated “Moderately Satisfying”), and up to twenty other skills (designated “Somewhat Satisfying”) that you are interested in using in an occupation.

When using the card sort, you sort the seventy-two SKILLS cards into four piles: five “Very Satisfying,” ten “Moderately Satisfying,” up to twenty “Somewhat Satisfying,” and the remainder are placed in a “Not Satisfying” pile. The card sort is much quicker and easier, but the results are inferior to the more thoughtful, time intensive process of completing the worksheet.

Regardless of the method used for sorting, once you select skills by level of satisfaction, you then enter these into the computer program for processing. The program calculates a rating for each of the occupations coded in the SKILLS database. This rating measures the goodness-of-fit between the skills you selected and the skills needed by each occupation. The program

rates how these skills relate to the six Holland Personality Types, scores your skills against the skills required within each of the Career Information System's (CIS) occupational clusters, and lists the 30 highest-rated occupations.

After receiving these ratings, you are encouraged to query the program about occupations of interest. This component is called View. View displays the rating for the occupation of interest and lists all of the skills required for the occupation along with your preferred skills. A graphic presentation of the matches and differences clarifies possible sources of conflict between occupational requirements and user preferences. View can also be used to illustrate why some occupations of interest do not appear on the lists. View displays relevant, concrete information on the skills needed for an occupation in a format that inspires discussion with a teacher or counselor.

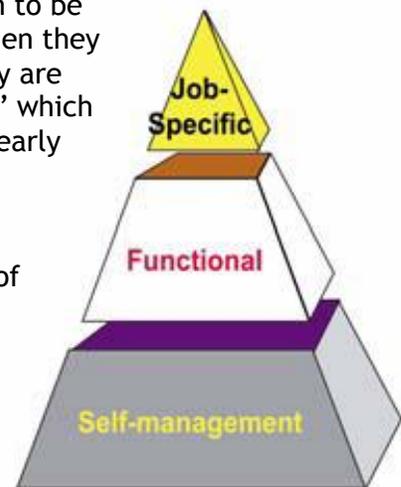
### ***What Is a Skill?***

The SKILLS program uses the following definition:

*A skill is a goal-directed behavior that has been or can be strengthened through practice.*

This definition of skill includes all types of skills, comes from *The Three Boxes of Life* (Bolles, 1978). The most basic skills fitting into this definition have been called self-management skills. These skills may seem to be innate and are often considered personality traits. However, when they can be strengthened through practice and are goal directed, they are considered skills. An example of this type of skill is "efficiency," which is goal-directed, can be strengthened through practice, and is clearly of value to employers. In SKILLS, we call self-management skills personal skills.

Functional skills are another type of skill. These are skills most of us recognize as transferable, such as reading, calculating, and analyzing. Although we are taught these skills in school, and we all know we have them, during the skills analysis process, a student or client is assisted in recognizing the multitude of ways these skills have been used and sharpened by life experiences. Outside of formal education, these skills are no longer labeled for us, and acknowledging our competence in them is a necessary step in preparing for a job search.



Specific content, or job-related skills are a third type of skill. These skills are unique to a given job, such as 'using Microsoft Access to record and track customers.' Typically, people find these skills fairly easy to list since the skills are clearly labeled and rewarded in job settings.

SKILLS uses a taxonomy that defines 72 key transferable skills. They include self-management and functional skills. Specific content skills are excluded because they are not useful in the computer sorting process, and these skills do not necessarily transfer from one job to another. However, these skills are important and should be recognized during the skills analysis process.

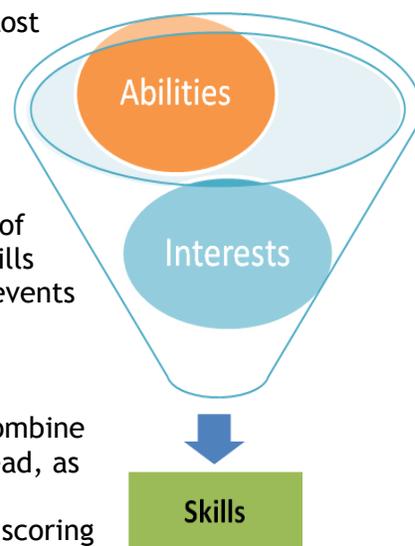
## Why Use the SKILLS Assessment?

Counselors of adults have been using skills analysis since the late 1970's. Counselors found skills analysis to be a very powerful intervention, as employers seek individuals with specific skills, and an understanding of one's skills helps job seekers describe experiences and themselves using terms employer value. The skills analysis process is now widely used in career counseling with adults and youth. Thus, an assessment that builds on this process fits smoothly into the career guidance process and helps individuals tie self-analysis to relevant occupational options.

Skills develop from abilities and interests that are satisfying. Most people have a good deal of information about their areas of success and failure, satisfaction, and dissatisfaction. Incorporating this information into occupational selection produces more accurate results than relying on interests, which may be based on childhood fantasies or outdated self-concept. Skills that are carefully selected are more predictive of occupational satisfaction than interests. But remember, the skills analysis process suggests that people "re-experience" specific events in order to best decide which skills they enjoy using.

One of the strengths of SKILLS is its use of analyzing 72 skills in identifying occupations. Many career assessment inventories combine items into a small number of factors or personality traits. Instead, as SKILLS is scored, each skill is used to identify occupations. In statistical terminology, there are 71 degrees of freedom in this scoring process. (This means that each factor can be combined with each of the other seventy-one times when calculating matches.) Thus occupations can be pinpointed with greater accuracy using SKILLS than with many other tools.

With this broad overview in mind, you can get a more in depth look at skills and the skills analysis process in Section 2 of this manual. You can learn more about using SKILLS with clients or students in Section 3. Section 4 provides important additional information that will improve your understanding and use of the SKILLS program.



## Section 2: SKILLS and the Self-assessment of Skills

---

As noted in Section 1, SKILLS is based on a self-assessment process of skills identification. The process of skills analysis is as important to an individual's career development as the printed results of the SKILLS computer program. Section 2 looks more closely at the skills self-assessment process from both theoretical and practitioners' perspectives.

The skills analysis process and the skill definition defined by Bolles, were important factors in determining which skills to include in the SKILLS program. There are many definitions and uses of the word skill. Some are so different from the one used here that the concept of self-assessing skills can seem to be a contradiction.

The first half of this section traces some of the early attempts to define skills and to use them in career planning. It is upon this important research that the skills assessment process has been built. The second half gives specific instructions for using skills self-assessment in a counseling setting.

### ***What Is Meant by a Skill?***

The word skill is used in many different ways. In common usage, it has at least four different meanings. From an educator's point of view, it has even more meanings. A large research project conducted by the National Center for Research in Vocational Education in 1977 to 1979 struggled with the issue of defining the word skill. (A detailed discussion of various meanings of the word as it is used in education is offered by Frank C. Pratzner in "Examples of Transferable Skills and Characteristics," Occupational Adaptability and Transferable Skills, Information Series No. 129. Columbus, Ohio: The National Center for Research in Vocational Education, 1978.)

As noted in Section 1, the definition used in the SKILLS program is:

*A skill is a goal-directed behavior that has been or can be strengthened through practice.*

This definition is intended to include more than it excludes. It excludes non-directed behavior as well as innate abilities, if these could ever be isolated. It includes any behavior that can be learned or developed over time.

Here is an example of how this definition is significant to the skills selected for the SKILLS program. "Efficiency" is often considered a personality trait, but using the above definition, it can also be considered a skill. If "efficiency" is defined as "effectively using resources," then it is a goal-directed behavior. Certainly people who intend to be efficient get better with practice so it does fit within the definition of skill used here. Of course, "efficiency" is also an attitude. People who are looking for ways to be more efficient will be more efficient. It is the transferable aspect of "efficiency" that makes it useful in career planning.

Often the word skill is used to imply a level of proficiency. To have a skill infers that the owner is proficient in performing a task. The SKILLS program does not use this meaning, and

no attempt is made to assess the level of proficiency. Rather, the word is used in the SKILLS program to indicate the user wishes to practice the behavior.

Skills have a positive value. Having a skill means the owner can perform a useful task. In economic terms, skills can be translated into income in an employment setting.

The second task of the research project conducted by the National Center for Research in Vocational Education was to determine which skills are transferable. Using a definition similar to the one used here, this work concluded that all skills are transferable:

*To say that a person has acquired a skill is to say that the person has acquired something of value. The value of a skill is determined by its utility and its utility is determined by the extent to which the skill is used. In this sense, every skill is transferable in that utility determines transferability.*

Thus, the more important task is to define the elements that make it possible for an individual to transfer a skill. The solution to this problem is to assist individuals in acknowledging their skills and recognizing other situations in which their skills can be used, as recognized by Sydney Fine, Bernard Haldane, Richard Bolles, and others.

One program with this objective was located at Columbia University and was called Deeper Investigation for Growth (DIG). The National Center for Research in Vocational Education studied DIG, finding encouraging results for the DIG participants:

*The DIG experience modifies their self-perceptions and often redirects their career aspirations based on new perceptions of their skill attributes and the importance of these for their self-fulfillment. The data obtained in this study strongly indicate that those who have elected to use the DIG program have subsequently experienced employment which has allowed them to use their skill attributes more fully than before. It has also provided increased intrinsic and extrinsic rewards at the same salary levels as their peers. (A.A. Wiant, *Transferable Skills: The Employer' Viewpoint*, Information Series No. 126. Columbus, Ohio: The National Center for Research in Vocational Education, 1979.)*

Thus the self-assessment process has value for people even without the use of tests or other measurement instruments.

Since any skill can be transferable, the task of listing transferable skills would appear to be endless. But if skills are to be used to assist people select an occupation, then the real problem is to determine which skills are most useful for this purpose.

### ***Previous Skills Taxonomies***

The history of skills taxonomies reveals taxonomies that are not universally accepted nor widely utilized. The taxonomies that have been used predominantly for career planning provide lists of interest clusters, personality types, or abilities rather than skills.

Why has there been no widely accepted skills taxonomy? A careful analysis of occupational descriptions reveals that the tasks listed for each occupation are skills for the worker. So the problem of identifying skills is not related to listing them but to finding some meaningful criteria for determining which skills are especially relevant to people who are planning a career or in career transition. For this reason, attempts at creating taxonomies have focused on smaller segments of behavior, such as abilities or personality traits, instead of skills.

Conversely, taxonomies of abilities or personality traits can be considered to be a subset of a skills taxonomy since each of these characteristics could be rephrased as a skill.

When we broaden the search to include all career-related taxonomies that have furthered the understanding of skills, four types of taxonomies can be distinguished. First there are those that developed labor market analysts for describing occupations. The Handbook for Analyzing Jobs (US Department of Labor, 1972) explained in great detail the categories used by the Department of Labor for analyzing occupations and constructing the DOT. Although this taxonomy included major headings such as Temperaments, Aptitudes, and Worker Functions, most of the items used in these sections can be reworded as skills, and the massive bank of data they have collected then provides a valuable resource for occupational coding. The recent development of the DOT's replacement, O\*NET, has actually refocused data collection toward skills concepts (see below).

Psychologists provide us with other sets of taxonomies. They have developed interest inventories, aptitude tests, and personality types. These taxonomies tend to be theoretically based and often divide occupations or people into a relatively small number of categories. For example, John Holland describes six personality types, and ACT'S UNIACT divides the World of Work into 12 discrete regions. These categories can be combined by a client to allow for about 100 to 200 different combinations. These taxonomies tend to be insightful, internally consistent, and easy to remember. However, when applied to the labor market and used to select appropriate occupations, they lack complexity and can be a liability. Whenever complex human beings and the complexities of the labor market are reduced to a small number of factors, the result is likely to be over-simplification.

In the 1970's a third type of taxonomy was developed by labor market analysts and vocational educators working together to synthesize previous efforts. The Occupational Analysis Assessment was developed at the North Carolina State University Center for Occupational Education (Cunningham, Tuttle, Floyd, and Bates, 1971). The Position Analysis Questionnaire was developed at Purdue University (McCormick, Jeaneret, and Mecham, 1972). A list of generic skills, plus a chart relating them to a wide variety of occupations, was developed by the Canadian Employment and Immigration Commission (Smith, 1977). These attempts to relate transferable skills to occupations assisted in clarifying and supporting the role of vocational training in job placement and career transition.

A fourth type of taxonomy has evolved, largely as the result of the work of Bolles, Crystal, Haldane, and others. In the mid-1970s these career-counseling professionals began to teach clients to analyze their own skills. After considerable experience in helping clients with this lengthy but rewarding process, several counselors began writing down the phrases they heard most often. These impromptu lists made the process easier for clients by suggesting topics for them to consider. These lists of skills do not aspire to be comprehensive and clients are usually invited to add their own skills to the list. The most notable aspect of these lists is the new language used to describe skills. These lists were constructed to approximate the results of the skills self-assessment process, so their language tends to be short on technical or specific-content skills, and many of the skill terms overlapped one another.

Drawing on these developments, analysts at liberal arts colleges have developed a number of lists (Breen, 1981) and conducted studies (Hicks and Tellet-Royce, 1983) demonstrating the relevance of liberal arts training to professional occupations. These lists include complex skills and often follow academic program lines in classifying skills, but they contain the new language that attests to their origin in the self-assessment process.

## ***Skills Taxonomies Today***

Several recent developments are now affecting the skills discussion nationally. Nationally, the Skills Standards Boards, jointly sponsored by the US Departments of Labor and Education, identified skills for training and certification purposes in a variety of occupational areas. These skills tend to be industry focused and do not provide a new, universal language either for analyzing jobs or career counseling. Also at the national level, the National Career Cluster Consortium has taken the 16 national professional technical career clusters, organized focus areas under each career cluster, and identified Skills and Knowledge for each cluster and focus area.

Most importantly for this discussion, the Occupational Information Network (O\*NET) Content Model, the US government's comprehensive database of occupation descriptors and its replacement of the Dictionary of Occupational Titles, uses skills rather than temperaments, aptitudes, and worker functions as its key attribute for job analysis. The Georgia Career Information System at Georgia State University applied the O\*NET skills taxonomy to the SKILLS program. In the fall 2001 release, SKILLS began using this new taxonomy and coding methodology that have resulted from these efforts.

### ***The SKILLS Assessment Taxonomy***

The SKILLS program builds on the previous taxonomies discussed above. In order to assist individuals in recognizing transferable skills, SKILLS is based on a self-assessment process and contains items that are likely to result from this process. The resulting SKILLS List is a concise taxonomy of building-block skills.

The list of skills used in the SKILLS program is designed to balance a career planner's need for relevant skill categories with the necessity of collecting reliable data on each skill category. The skills categories considered for this list must combined three viewpoints:

1. Categories commonly listed during a skills analysis process.
2. Categories on which the US Department of Labor collects and reports data that can be used to code occupations.
3. Descriptive verbs commonly found in occupational literature.

Often the difference between these points of view is one of wording. For example, users might describe themselves as willing to "accept responsibility" while an analyst would need to know what they are willing to be responsible for. Since responsibility is part of most occupations, it must be broken into smaller components in order to be useful in distinguishing among occupations. So, the SKILLS List contains skills such as "dependability," "impact of responsibility," and "decision making," all which involve accepting responsibility in different ways. Using the SKILLS list in the skills analysis process is intrinsically valuable because it helps clarify and objectify basic skills. It forces individual career planners to break their skills into meaningful components and to describe themselves in terms that employers find relevant.

On the other hand, some skills that are equally useful to many occupations are not found on this list. For example "loyalty" is highly desired by many employers, but it appears to be useful in almost all occupations and so is not included on the SKILLS list. Students and clients need other exercises that elicit skills like these so that they can list them on their resumes and use them during job interviews.

Appendix A provides Expanded SKILLS Definitions to further clarify the definition of the skills used in the SKILLS program.

### ***Self-Evaluation vs. Testing***

The goal of any skills self-assessment process is to identify a wide range of skills, not to measure a person's level of competency. There are tests that assess the level of mastery of specific skills. However, many skills that are valuable to employers are difficult to assess in a test environment. Because most adults possess many skills, testing for each possible competency area is impractical. Skills testing is usually reserved for specific, job-related skills; the skills self-assessment process is used to identify various other skills that a person needs to be aware of in order to describe them to potential employers.

The skills self-assessment process must be tied to reality in order to benefit the individual. Many people in our society belittle their strengths and exaggerate their faults. To conduct a successful job search, job seekers must realistically articulate and describe their strengths to future employers. To do this, they must believe in themselves. For this reason, the skills self-assessment process is based on their accomplishments. Those people who have the most difficulty with the word accomplishments have the most difficulty with the process, and benefit the most from SKILLS if they can overcome their sense of modesty.

### ***The Skills Analysis Process***

The skills analysis process involves the identification of transferable skills. Research shows that any skill can be transferable when a person acknowledges ownership of the skill and recognizes that it could be used in other settings. Thus, the process of skills identification is important for people who wish to begin or change careers. It is the process of identifying and acknowledging the skills they have developed that enables people to view themselves more favorably and conduct a career search with greater self-confidence and enhanced self-esteem.

The skills analysis process includes three steps:

1. Reviewing accomplishments.
2. Identifying skills used in these accomplishments.
3. Clustering and ranking skills identified.

For another look at this process, read "The Quick Job Hunting Map" in *What Color is Your Parachute?* (Bolles).

It is often helpful to do skills analysis in a group setting. The following steps provide the counselor with one method of skills analysis in a group setting adapting aspects of the Dependable Strengths Process (Haldane).

#### ***1. Review accomplishments***

A complete autobiography is an ideal tool for reviewing experiences. When necessary, abbreviated autobiographies can suffice. First, ask participants to draw a lifeline and place their accomplishments on it. Encourage them to list even the smallest achievements that have given them pleasure, in school, work, or leisure. As they share their lifeline with the group, watch for changes in the focus of their activities and changes in the level of activity since people are often unaware of the changes they have made.

Next, have them select approximately seven accomplishments to describe in detail. These accomplishments should illustrate the various aspects of their personalities. Then have them describe the steps used to reach each accomplishment in great detail, explaining the steps as they would to a five year-old child.

## 2. *Identify skills*

The next step involves identifying the skills used in accomplishments. This can be done:

- By dividing groups into triads;
- By a counselor working with one person; or
- Alone by the client or student.

Using the first option, the counselor begins by teaching the group or class how to identify skills. Large quantities of small pieces of paper (1" x 4") can be distributed for recording skills. (Small pieces of paper facilitate sorting of the skills when the exercise is completed.) Using a carefully selected example of a detailed description of an accomplishment, the counselor asks the entire group to record the skills they hear during the story. The counselor encourages the group to ask questions and draw out further details of the accomplishment. Participants then read the skills they heard used, learning to identify skills they may have missed by hearing the skills others listed. The owner of the accomplishment collects the pieces of paper.

When all participants are able to identify skills, they are divided into triads. In each triad, group members take turns telling their stories and recording skills for their peers. The counselor should encourage drawing the storyteller out and impromptu elaboration. After each story, the recorded skills are read aloud and given to the storyteller. The counselor can circulate and attempt to listen at least once to each person since counselors often notice less obvious skills.

This option for identifying skills is the most valuable since people know their peers are giving them honest feedback, and they learn to appreciate their strengths through the intrinsic comparison with their peers. When group work is not feasible or when people must identify their own skills, the SKILLS Worksheet or SKILLS Cards can be substituted to provide structured assistance in identifying skills.

## 3. *Cluster and rank skills*

When the entire autobiography or all seven accomplishments have been analyzed, each person will have dozens of small pieces of paper. These can be sorted into piles of related skills, and then each pile can be sorted. The result is usually about ten (seven to twelve) major skill categories with up to twenty less important categories. People should be encouraged to use their own categories. There is no right way to cluster skills. Occasionally people will need help with this step and the counselor should be prepared to assist with the sorting.

Finally, these skill clusters can be ranked and recorded in a more permanent form. The highest priority should be given to those skills the person wants to use most in a job. One skill can be selected as the title of each cluster and related skills can be listed under it. To prepare for writing a resume and interviewing, it is useful to list accomplishments which provide examples of how the skill has been used under each cluster. This also ties the clusters firmly to reality and prevents people from feeling that the skills are exaggerated.

## 4. *Use the SKILLS Assessment*

Once the above process is completed, people have a much clearer concept of their skills. In order to relate skills to occupational categories, the person needs to select skills from the SKILLS list. The SKILLS Cards are most useful at this point since they can be sorted quickly without duplicating previous steps.

While working in a group and constructing a personal skills list has a much greater impact than working alone and using a standardized skills list, the resulting occupational lists produced by the SKILLS program by either method are equally valid.

The computerized rating of the relationship between the individual's skills and the skills required by various occupations allows each person to use the self-knowledge gained in the skills analysis process to identify relevant occupations. However, it would be a big mistake to assume that the goal of the skills analysis process is to produce a list of occupations. The goal is to enhance self-esteem and self-awareness. Rushing through the process produces a similar computer list but misses the other important outcomes. When speed is desired, ask your students or clients to sort the cards or select skills on the computer. When personal growth is desired, take them through a more complete skills analysis process.

## Section 3: Administering SKILLS

---

SKILLS is a self-evaluation tool, not a test. It is intended to compile the results of a personal skills analysis process and feed these results back to the user in an objective format. Although the instructions provided on the SKILLS materials and within the SKILLS computer programs are intended to be self-explanatory, the process of administering and interpreting SKILLS is complex and should be undertaken only by trained professionals. As with any career assessment tool, users need to receive guidance in understanding the objectives and the instructions when they use this instrument.

The purpose of SKILLS is to relate a person's life experiences and preferences to future choices. A few people have an accurate and current perception of their own skills, while many have outdated self-concepts that are biased by formal evaluation and the praise of respected others. Although both types of people could respond to a list of skills by selecting their preferences, this process would be similar to that of an interest test and the results would be equally loosely grounded in reality. The difference between SKILLS and other inventories is derived from the preparatory work that must occur before sitting down at a computer.

The skills analysis process can take from one to five hours, depending on the individual and the process and format chosen.

There are two formats for skills selection provided as part of the SKILLS program. The SKILLS Worksheet was designed for ease of administration in a setting where the user has relatively little contact with a counselor. However, it does require more initial assistance than a traditional interest assessment, and counselors should allot time to get the person started.

When a counselor has worked closely with a person and is confident that the person has an accurate self-concept, or when time restrictions permit only a quick snap-shot, the SKILLS Cards may be the most appropriate skills selection format. The cards are also useful when the person has completed another skills analysis process like the one described in Section 2 and needs only to relate self-evaluation information to the skill words used in SKILLS.

People who complete the worksheet need one to two hours. People who complete an unstructured analysis of life experiences in a group or workshop setting as described in Section 2 need an hour or two to select and describe their accomplishments, at least two hours working in triads to identify their skills, and one hour to cluster skills. They then need twenty minutes to one-half hour to sort the SKILLS Cards. (The cards are also available in Spanish.)

### ***What are the Steps in Using SKILLS?***

There are three major steps in using the SKILLS program:

1. Identifying preferred skills using the worksheet or cards.
2. Compiling the results using the SKILLS computer program.
3. Interpreting the results and integrating them into a career plan.

The first step involves skills identification. Users may choose either the SKILLS Worksheet or the SKILLS Cards for this step.

### 1. *Identify preferred skills*

The SKILLS Worksheet begins by asking the student or client to identify three to seven accomplishments. They list these accomplishments at the top of the second page. They then read each skill definition in the SKILLS list and decide which of their accomplishments used each skill. Next, they decide which skills they enjoy using, placing a check in the far right column for these skills. Finally, they select the five skills they enjoy most and list the skill numbers under “Very Satisfying” on the last page. Similarly, they select the next ten most enjoyed skills for the “Moderately Satisfying” category, and up to twenty other skills for the “Somewhat Satisfying” category.

The SKILLS Cards consist of 72 cards, each containing one skill with its definition, plus four header cards listing the levels of satisfaction (“Very Satisfying,” “Moderately Satisfying,” “Somewhat Satisfying,” and “Not Satisfying”). They sort the skills cards into piles under these header cards. Then, if necessary, they sort the piles a second time to reduce the number of cards (skills) in each pile to the limits previously described. Many people ask why the numbers of skills selected at each level of preference is limited. There are two reasons for this:

1. To encourage people to focus their skills.  
Some people want every detail of their future occupation to be perfect. Few of us find perfect jobs unless we tailor a job to fit us. The process of ranking the skills is important in a realistic job search, and beginning the ranking process at this point shifts the user’s focus from looking for an occupation that fits perfectly to looking for the best fit. Counselors who encourage clients and students to be flexible and to rank their skills find that people learn a great deal from this process. However, students and clients often need a bit of encouragement and assistance in adopting this approach.
2. To avoid defining the meaning of high, medium and low skill-usage levels for each of the 72 skills (a process that would require lengthy explanations for users and additional training for counselors). Some people assume that the levels have an absolute meaning, but the possibilities for differences of interpretation are great. When the meanings are defined relative to an individual’s other skills, a level of objectivity is achieved without unique definitions.

They arrive at the same end point using either the SKILLS Cards or the SKILLS Worksheet. The worksheet provides more structure and takes them through a more extensive self-exploration process. The worksheet is designed for settings where the client or student works independently for periods of time or they do a homework assignment. In this form, the assessment requires only initial assistance in interpreting the instructions; working alone, they can do most of the skills selection process.

The SKILLS Cards are designed for producing a quick skills sort. The cards may be used in a counseling setting where other exercises have been conducted for skills analysis. They may also be used to quickly sort and prioritize individual or group skills. SKILLS Cards allow people to translate self-awareness of satisfying skills into a convenient format for input into the computer. People who know themselves well and do not need further exercises for clarification may also use the cards.

## 2. *Use the computer to rate the skills selected*

The second step in the SKILLS process requires a computer to process the results. SKILLS is used interactively at the computer. The student or client simply follows the instructions as they appear on the screen. However, students and clients will need guidance to use all parts program and to maximize its relevance to them.

As a first step, they must post their selected skills into the SKILLS program. Once their skills are entered, they tell the program to rate their skills by pressing the **Rate SKILLS** button. The computer will display a **Skills Summary** of their selected skills so they can confirm that they entered their skills correctly. They can also print this summary for future reference. The summary does not list skills they rated as “Not Satisfying.”

The computer also calculates three r ratings: scores for Holland Personality Type, or **Holland Code** as it’s called in SKILLS; scores for CIS’ 16 **Occupational Clusters**; and the occupational ratings or the Top 30 List.

In the **Top 30 List**, the occupations with the highest ratings are often more appropriate for the user than the occupations with lower ratings. However, the ratings have no absolute meaning and should be used with caution. Because the list includes the 30 occupations with the highest ratings, it probably includes a wide variety of occupations representing many clusters and types of work. Any occupation on this list is a “good match” with the user’s selected skills.

Ratings can range from +100 to -44, but most ratings fall between 62 and -20. Ratings on Top 30 List usually fall between 62 and 21. This means that most people are not perfect for any single occupation, nor do they enjoy working so much that their satisfying skills exactly match the skills that are important in a work setting.

After Rating, the student or client can select the component called View to look more closely at specific occupations. Their rating for that occupation is displayed and the skills the occupation requires are listed along with the skills they selected as satisfying. Their “Very,” “Moderately,” and “Somewhat” satisfying skills are graphically compared to all of the skills needed for the occupation. They can evaluate the mismatches to the matches and form their own sense of the occupation and its appropriateness for them. The user may view any occupation that interests them by selecting occupations to compare from either the Top 30 List or the All Occs displays. (Note: Since a user often thinks of new occupations to View after leaving the computer, they can click Save and later click Restore to restore their data within My CIS Portfolio, My Sorts & Assessments.)

After reviewing the Holland Codes information, Occupational Cluster Ratings, and the Top 30 List of occupations, the user may want to reconsider the skills they originally selected. At any time, they can return to the Select Skills screen and change their skills. Remember, this is a self-assessment instrument, and much of its value is derived from reevaluating preferences and learning a new skills vocabulary.

Users who find the self-evaluation process difficult may wish to begin with the skills of occupations they have held before selecting their skills. To do this rather than entering skills, they may use the “Occ Select” button on the first screen. They can select the skills coding for any occupation in the database to begin their evaluation process.

### Pre-Interpretation Comments

When interpreting the results of SKILLS, it is important not to compare the ratings of different users. All of the coding is ipsative (comparing the user to him/herself and comparing the occupation to itself) so comparisons between users or between occupations are not intended nor are they meaningful. People tend to compare their scores in group testing situations and should be discouraged from doing this.

Usually SKILLS is one of the culminating steps in a skills analysis process, so it fits clearly into a larger career selection process. When administered alone, students and clients should be aware of the larger process and the importance of other aspects of career choice. SKILLS is not intended to predict success in an occupation, but only to focus the person's attention on appropriate fields.

There are many factors that determine career choice that are not addressed by SKILLS. Therefore, the instrument may not list some of the occupations the client or student is considering, and it usually lists occupations the person considers inappropriate. People need help with this concept. Some individuals expect a computer to produce the ultimate answer. Everyone must be encouraged to see the relationship between the information they give the computer and the results it produces. Pointing out some factors that are not addressed by SKILLS, such as income, goals, and educational level, may help people to understand the limitations of the SKILLS results.

There are several reasons the ratings may be different than expected. People may focus on skills learned through formal education or valued highly by our society. For example, Holland's Realistic types sometimes have difficulty with SKILLS because they tend to belittle their hand-working skills and emphasize their interpersonal or leadership skills. For laborers and skilled craftspeople, this obviously produces spurious results, frustrating and confusing the user.

Furthermore, the occupations in SKILLS are coded for the typical occurrence. Some people focus on unusual occurrences of an occupation that they are familiar with (for example, thinking about a physical education teacher under secondary teachers). Others distort the importance of some aspects of an occupation (for example, believing that counselors need only to listen and respond warmly, ignoring the multitude of other skills that are needed).

The process of reviewing a SKILLS results should be a learning experience where most of these hidden biases emerge and are addressed. "View" especially encourages dialogue. Counselors may want to focus the user's attention on View until the user understands how SKILLS works and then return to the Ratings and look more closely at the list.

### 3. *Analyze the occupational ratings*

The occupational ratings may contain 30 occupations or slightly more. However, it is convenient to call it the Top 30 List because this emphasizes its inclusion of the six percent (6%) of the occupations that best match the person's preferred skills. The list is long enough to include a variety of occupations and a wide range of ratings is usually observed. Yet it is highly selective, eliminating ninety-four percent (94%) of the occupations for which the user's skills are of less value. Students and clients may need to be reminded that this is a highly selective list, and all occupations on the list are well matched to the skills they chose.

Begin the interpretation by circling the five highest rated occupations. If the fifth one is a tie, circle all occupations with the same rating. Then review each cluster, giving a little extra attention to clusters with circled occupations because these clusters probably have the most importance for the user. No further emphasis should be placed on the magnitude of the score, since these often do not have any special significance and they may be slightly misleading.

Students and clients need to be reminded that SKILLS is not telling them to enter any occupation. If they were to change the arrangement of their skills slightly, a different occupation might receive the highest rating. People who focus on the highest rating should explore the reasons why they scored highest in that occupation (look at View for that occupation). Then they should be encouraged to turn their attention to the five or more other high scoring occupations. This group will be relatively stable over time, and most of these occupations would appear high on their results if they used SKILLS again in a month or a year later.

As you look at the clusters that contain several circled occupations, try listing a few other occupations in that cluster that might be implied though not listed. Although SKILLS contains more than 550 occupational titles, there are occupations that are not included. By encouraging students and clients to explore between the lines, they are freed to discuss hundreds of new fields that may suit them better than any of the major occupations listed in SKILLS.

It is possible to draw conclusions about the user by observing the range of ratings on the Top 30 List. The mean is commonly used as a descriptive statistic, but it is not an appropriate measure for the Top 30 List. Ratings on the Top 30 List are always very skewed since this list contains only the upper portion of a normal distribution. Therefore, the mean does not reflect the center of this list. However, lists for which the mean score falls between 43 and 30 can be considered normal.

Two other measures that are more useful and more easily calculated are the highest rating and range of ratings on the Top 30 List. For most people, highest ratings tend to fall between 54 and 40. A highest rating of 55 to 62 can be considered quite high and a highest rating of 63 or above is exceptional. When the highest rating falls between 39 and 32, this is quite low and highest ratings of 31 or below are exceptional. People on the high side of this measure are either very enthusiastic and dedicated to their work or they are concerned with making a good impression and answered according to their sense of what is socially acceptable. People on the low side of this measure either did not select the full number of skills that were allowed or have diverse skills that do not fit well into any one occupation. Not selecting the full number of skills may indicate a low sense of self-worth or an apathetic attitude toward work in general. Many people who have low scores overall are not sure they want to work and have not tried to develop good work habits or skills that employers value.

A range of 10 to 18 points is normal. Ranges of 19 to 23 points are quite high and ranges of 24 or more points are exceptional. Ranges of 6 to 9 points are low and ranges of 5 or fewer points are exceptionally low. A broad range usually indicates a focused person (well suited to a small number of occupations) and a narrow range indicates either an unfocused person or a person who has skills in areas of the labor market where there is little differentiation among occupations. Many unskilled or semi-skilled trades, for example, require similar skills and people who are high in these areas have narrow ranges with many similar occupations to choose from. Low ranges are also observed

when users have failed to differentiate themselves. For example, a large number of social service occupations with similar ratings may indicate a socially concerned person with no specific area of interest.

Students or clients with low ratings and a narrow range of ratings are of greatest concern. SKILLS has failed to identify their areas of preference, and they should be encouraged to use other instruments or to work with a counselor on building self-awareness. This pattern may indicate depression or the desire to avoid working.

It is interesting to note that ratings above 62 are rare although ratings can theoretically be as high as 100. One reason that ratings rarely approach 100 is that you are asked to choose satisfying skills, and occupations are coded for important (or frequently used) skills. There are some skills users rarely select as “Very Satisfying” although occupations may find them “Very Important” (such as “tolerating discomfort” and “emotional control”). Few people live for their work. Most people work because they need to make a living and hope to find some enjoyment in their work. Clients and students should be encouraged to view scores in the mid-ranges as healthy and indicative of the complexity of their personalities.

### Analyzing a Skills Display

The View icon (👁️) links to a display of the user’s skills compared to those required by an occupation. Any occupation may be requested, whether or not it was on the user’s Top 30 List. In the View window, the rating for the occupation is displayed in front of the occupation’s title. Section 4 explains how the rating is calculated. For occupations where the user questions the rating, thorough analysis of the View display may be valuable to understand why this rating occurred.

For a thorough analysis of a View printout, the counselor and student or client begins by looking closely at each skill for which there is a significant mismatch between the skill level preferred by the user and the skill level required by an occupation. When skills will be used either more often or less often than the user would like, a person could be uncomfortable in the occupation. The counselor and user should pinpoint each of these mismatches and discuss the ones that are important.

While it may take five to ten minutes to examine carefully the first occupation, the process is much faster once you become accustomed to

**SKILLS Assessment**

**View Skills** Back

**Actors [Rating = 100]**

The following list compares your skills to the skills required by the occupation "Actors." The skills are marked to show your skills and the skill levels needed for the occupation:

Your Skills     
 Occupation Skills     
 Very Satisfying Skill  
 Moderately Satisfying Skill  
 Somewhat Satisfying Skill

**A. Personal Skills**

- 02. Flexibility
- 03. Persistence
- 06. Competitiveness

**B. Social Skills**

- 07. Social Perception
- 09. Team Work
- 10. Working with the Public
- 12. Performing

**C. Movement Skills**

- 14. Finger Dexterity
- 15. Manual Dexterity
- 16. Motor Coordination

**D. Perceptual Skills**

- 20. Sound Discrimination
- 21. Shape Discrimination
- 23. Depth Perception
- 24. Visualizing
- 25. Creativity
- 26. Aesthetic Judgment

the symbols. This is time well spent, since marking these differences clearly illustrates the compromises one needs to make when entering an occupation. These items lead to fruitful discussions between counselors and students or clients.

### ***Searching for Additional Information***

Research into any occupation of interest should be encouraged. SKILLS makes this exploration and research step easy by integrating SKILLS directly into CIS.

Users simply click on the occupation title after they highlight an occupation of interest on the SKILLS Top 30 or All Occupations rating. They will be taken to CIS occupational information. They can return to their SKILLS ratings by pulling down **Return to** and selecting SKILLS.

## Section 4: Additional Information about SKILLS

---

A great deal of research and development went into creating the SKILLS program. Here is some additional information that may be helpful as you use this instrument.

### *How Are the Occupations Coded for SKILLS?*

In the past, CIS Information Analysts used several data sources to determine the skills needed in each occupation: the CIS occupational information, the *Dictionary of Occupational Titles* (DOT), the *Occupational Outlook Handbook* (OOH), the *Guide for Occupational Exploration* (GOE), the DOT data display tape, and literature from professional associations or other private sources. With the advent of O\*NET as a replacement of the DOT, analysts now have a new and more comprehensive resource for coding data.

After selecting the skills used by an occupation, the analyst codes the five most frequently used skills for the highest level of importance, then the next ten for the middle level, and up to twenty for the lowest level. Many occupations use more than 35 skills, but only the 35 most frequently used skills are included. Thus the coding is ipsative, meaning the coded level is relative to the occupation but has no meaning between occupations. The level of importance of a skill does not relate to the competency in that skill required by the occupation. The same level of competency could be coded at different levels of importance in different occupations.

Conversely, a skill which is coded at a high level in two different occupations could imply very different levels of competency. The highest level implies only that it is among the five most frequently used skills in that occupation.

Although great care has been taken to code the occupations accurately, there is always room for disagreement. In deciding which five skills are most important to an occupation, it is always possible that analyst's bias, incomplete data, or systematic error influence the selection. The same is true between the medium and low skills. Thus users should regard this data as an informed opinion.

### *How Are the Ratings Calculated?*

To determine how well each occupation fits the user, an algorithm was developed to measure the degree of matching. This algorithm is similar to the square of the coefficient of correlation, multiplied by 100 to remove the decimal point. (The coefficient of correlation is a statistic typically used to determine how closely two sets of data—in this case, a user's skills and an occupation's skills—are related.) If the formula for the coefficient of correlation was strictly applied, the ratings would fall between +100 and -100. However, the algorithm used in this program produces ratings that fall between +100 and -44.

This algorithm was designed to reduce the penalty when users wish to use more of a skill than is needed by an occupation. Positive weighting was selected after experimentation because it produced more satisfying lists and appeared to approximate the decision-making process clients and students normally use.

Table 4.1 below illustrates the algorithm used in SKILLS. It incorporates these principles:

1. The occupational skill level is the highest possible score for each skill.
2. A perfect match is awarded the highest possible score.
3. When the user wishes to use less of the skill than the occupation requires, points are deducted. For example, if the occupation requires a level 3 and the user chooses a level 1, 2 points are deducted.
4. Users can lose points by wanting to use too much of the skill, but the penalty is not as severe. When the user chooses one higher level than the occupation requires, there is no penalty. For example, if the occupation requires a level 2 and the user chooses level 3, no points are deducted. However, if the occupation requires a level 1 and the user chooses level 3, one point is deducted.
5. The rating for each occupation is a ratio of the total score to the highest possible score for that occupation multiplied by 100. Thus, 100 indicates that the user is perfectly matched to the occupation.

Table 4.1 Algorithm for Computing Ratings

Occupation	SKILL LEVEL		Match Code
	Occupation	User	
3	3	3	3
3	3	2	2
3	3	1	1
3	3	0	0
2	2	3	2
2	2	2	2
2	2	1	1
2	2	0	0
1	1	3	0
1	1	2	1
1	1	1	1
1	1	0	0
0	0	3	-2
0	0	2	-1
0	0	1	0
0	0	0	0

$$\text{Rating} = \frac{\sum_{n=1}^{100} M}{\sum_{n=1}^{100} Q} \times 100$$

where M is the match code for each skill and Q is the occupational code for each skill.

### ***How are the Occupational Ratings Constructed?***

In order to provide a varied list of occupations that includes most of the occupations appropriate for users and excludes most of the occupations that do not fit well, the 30 highest-rated occupations are selected. When there is a tie for 30th place, all occupations with the tied ratings are included on the list. When less than 30 occupations receive positive ratings, only those occupations with positive scores will appear on the list. Thus some lists will be shorter or longer than 30.

Arranging the list of the top 30 occupations by occupational clusters assists in generalizing the results. Although the extensive array of occupations used in the SKILLS program represents the major categories available in the labor market, there are many other related occupations. The occupations are clustered according to the type of work performed to encourage users to look for relationships within their list and to consider similar occupations that are not included in SKILLS.

Arranging the occupations by clusters is also intended to discourage a simplistic interpretation of the meaning of the ratings. Because other factors must be incorporated into the selection of an occupation, a user's highest-rated occupation may not be the most appropriate choice. Many users seek out their highest occupation as soon as they see the list and assume the computer is telling them they should enter this occupation. The arrangement of the list is designed to deemphasize slight differences in ratings and to emphasize the relationships among the ratings within clusters.

Ratings can range from 100, indicating a perfect match, to -44, indicating a complete mismatch. Very high ratings and very low ratings are rarely seen, with most ratings falling between 62 and -20. Ratings between 60 and 40 indicate a good match with a high probability of job satisfaction. Ratings between 40 and 20 indicate a satisfactory match that could lead to job satisfaction when other positive factors are present. Ratings between 20 and 0 indicate a weak match and these ratings should not be used to indicate either satisfaction or dissatisfaction with a job. Negative ratings indicate a mismatch and should serve as a mild warning that the occupation may not be appropriate for the user.

Because the statistical process used in this program is not designed to compare users to objective standards, users should be encouraged to think of the occupations on their list as good matches, with all other occupations matching the skills selected slightly less well. Comparisons between users should be discouraged.

## Appendix A: Expanded Skills Definitions

A. PERSONAL SKILLS	Work Setting Activities Indicating the Presence of this Skill:
<b>01. Dependability</b> Working in a reliable and responsible manner.	Turning homework in on time. Setting the security system when closing a business for the night. Providing daily care for animals in a clinic.
<b>02. Flexibility</b> Accepting change and variety in the workplace.	Caring for preschool children. Handling the daily activities of a policeman. Working with others on a class project.
<b>03. Persistence</b> Working continuously despite interruption.	Studying to improve grades. Dispatching service repairmen. Auctioneering art works and collectibles.
<b>04. Integrity</b> Avoiding unethical behavior and being honest.	Giving correct change at a grocery store. Correctly citing resources for a term paper. Keeping patient records confidential at a pharmacy.
<b>05. Efficiency</b> Effectively using resources.	Organizing activities and study time. Preparing an office supply list for the month. Planning a travel itinerary.
<b>06. Competitiveness</b> Striving to be the best.	Selling the most cars in a single day. Playing in a soccer game. Applying for a merit scholarship.
B. SOCIAL SKILLS	Work Setting Activities Indicating the Presence of this Skill:
<b>07. Social Perception</b> Being aware of the needs and feelings of others.	Helping a friend choose clothing for a job interview. Working as a volunteer in a senior citizen home. Understanding how stressful situations affect others.
<b>08. Independent Work</b> Working with little or no supervision.	Working in a fire tower at a national park. Delivering newspapers. Writing a novel.
<b>09. Team Work</b> Working cooperatively with others.	Working with others to collect money for a special needs group. Playing in a band. Cooperating with others to resolve conflict.
<b>10. Working with the Public</b> Representing the organization and communicating with persons outside the organization.	Providing customer service for a utility company. Selling ads for the school yearbook. Volunteering at a community event.
<b>11. Assisting/Caring</b> Providing assistance, care, or service to others.	Collecting food and blankets for charity organizations. Helping a customer select purchases. Assisting the elderly at senior centers.
<b>12. Performing</b> Interacting with others to entertain or sell.	Working as a concierge in a hotel lobby. Selling televisions in a retail store. Singing in a chorus.
<b>13. Instructing</b> Teaching, guiding, or motivating others.	Training employees how to use a new phone system. Teaching students how to drive a car. Working as a tutor.

<b>C. MOVEMENT SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>14. Finger Dexterity</b> Coordinating movements of the fingers.	Pushing a button to start or stop a coffee machine. Counting change at a fast food restaurant. Operating cameras and other photographic equipment.
<b>15. Manual Dexterity</b> Coordinating movements of the hand, arm and hand, or both hands.	Planting a garden. Packaging boxes for shipping. Playing the drums in a band.
<b>16. Motor Coordination</b> Coordinating movements of two or more limbs together.	Cleaning a hotel room. Moving freight using a hand truck. Cheerleading at a football game.
<b>17. Stamina</b> Exerting one's self physically over long periods of time.	Leading a hike at a state park. Waiting tables at a busy restaurant. Playing in a basketball game.
<b>18. Strength</b> Exerting force repeatedly or continuously.	Hanging cabinets at a home construction site. Pushing a lawn mower across the yard. Loading appliances onto a truck for home delivery.
<b>19. Rapid Response</b> Moving quickly and correctly between two different activities.	Leaving a building during a fire drill. Driving a car in city traffic. Providing medical treatment in an emergency room.

<b>D. PERCEPTUAL SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>20. Sound Discrimination</b> Detecting the difference between sounds, pitch, or loudness.	Adjusting the volume of the TV. Detecting a truck malfunction based on engine noises. Mixing sounds to produce a music video.
<b>21. Shape Discrimination</b> Detecting the difference between sizes, shapes, and mass.	Setting a table in a restaurant. Choosing a new pair of shoes. Inspecting electronic components on a production line.
<b>22. Color Vision</b> Detecting the difference between colors, shades, and brightness.	Selecting a hair color. Decorating for the holidays. Restoring an eighteenth-century painting.
<b>23. Depth Perception</b> Detecting the distance between objects.	Learning to parallel park a car. Using a forklift to relocate stock. Lining up a golf shot.
<b>24. Visualizing</b> Forming a mental image of how something will look after it is moved or when its parts are moved.	Imagining the placement of new furniture in a room. Solving a puzzle. Designing an exhibit of art objects.
<b>25. Creativity</b> Originating, designing, or creating new ideas, relationships, systems, artworks, or products.	Choosing the colors and types of flowers in an arrangement. Designing a video game. Writing a poem to celebrate a special occasion.
<b>26. Aesthetic Judgment</b> Recognizing artistic or natural beauty.	Judging a dog show. Arranging an art exhibit. Selecting music for a concert.

<b>E. SITUATIONAL SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>27. Stress Tolerance</b> Dealing calmly and effectively with tense situations.	Preparing for final exams. Dealing with customers during the holidays. Managing a government relief program during a crisis.
<b>28. Hazards Tolerance</b> Working in potentially dangerous conditions.	Working on a bridge construction site. Working in a health clinic. Working as a lifeguard at an ocean beach.
<b>29. Discomfort Tolerance</b> Working in unpleasant environmental conditions.	Stocking the food in the freezer section of a grocery store. Cooking in a busy restaurant kitchen. Mining coal in a tunnel.
<b>30. Repetition Tolerance</b> Continuously performing the same action.	Sorting daily mail. Checking tickets at a concert. Practicing serving skills for a volleyball match.

<b>F. PROCESSING SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>31. Following Procedures</b> Correctly following a given set of rules to complete a task.	Following directions carefully when taking a test. Taking the correct steps to perform CPR. Flying an airplane.
<b>32. Categorizing</b> Identifying items by similarities.	Sorting medical supplies for assessment. Shelving books in a library. Labeling and displaying a shell collection.
<b>33. Record Keeping</b> Entering, transcribing, recording, storing, or maintaining information.	Tracking the number of newspapers delivered. Keeping a play list for a radio station. Collecting documents for tax purposes.
<b>34. Attention to Detail</b> Checking each item or task carefully.	Taking attendance in class. Conducting laboratory experiments and recording results. Proofreading a term paper.
<b>35. Verifying Information</b> Evaluating information against a set of standards or ensuring that it is correct.	Verifying a bank statement. Checking a credit report. Researching a crime.

<b>G. TECHNICAL SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>36. Installing</b> Setting up equipment, machines, or structures to meet specifications.	Loading software onto a computer. Installing a sound system in a car. Setting up a heating and cooling system for a building.
<b>37. Inspecting</b> Checking and evaluating equipment, structures, and products.	Checking a house for termites. Testing a car engine for performance. Examining seatbelts for safety compliance.
<b>38. Repairing</b> Fixing, servicing, aligning, setting up, and adjusting machines, devices, moving parts, and equipment.	Fixing a ham radio. Servicing a bus engine. Adjusting the escalator at a shopping mall.

<b>G. TECHNICAL SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>39. Trouble Shooting</b> Determining the cause and solution of an error.	Resolving customer complaints. Evaluating a power outage. Figuring out the cause of a computer problem.
<b>40. Controlling Machines</b> Using control mechanisms or direct physical activity to operate machines.	Using a copy machine. Operating a movie projector. Operating an X-ray machine at a hospital.
<b>41. Operating Vehicles</b> Running, maneuvering, navigating, or driving vehicles or mechanized equipment.	Riding a bicycle. Driving a truck. Piloting a helicopter.
<b>42. Using Computers</b> Working with computers by using programs or entering data.	Sending e-mail to request information from colleges. Maintaining electronic spreadsheets to track spending. Managing databases for a bank.
<b>43. Programming</b> Writing computer programs.	Developing a program for a video game. Writing a program to solve quadratic equations. Writing a program to track and predict the weather.
<b>44. Technology Design</b> Developing or adapting equipment and technology.	Designing a solar powered car for competition. Adapting bathrooms for wheelchair use. Adapting software for the visually impaired.

<b>H. MATH AND SCIENCE SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>45. Calculating</b> Adding, subtracting, multiplying, and dividing.	Measuring the square footage of a room for wall-to-wall carpet. Determining the change for a customer. Tracking stock market changes.
<b>46. Estimating</b> Approximating distances, quantities, time, costs, resources, or materials.	Determining the approximate travel time for a trip. Estimating the materials needed to build a house. Determining the cost of a disaster.
<b>47. Budgeting</b> Allocating financial resources.	Allocating money for shopping. Determining pay raises for office staff. Figuring the costs and expenses for a construction project.
<b>48. Math Reasoning</b> Using mathematical methods to understand and solve problems.	Determining which cars get the best gas mileage. Understanding how to expand a recipe to serve 100 people. Using statistics to design a company pension plan.
<b>49. Science Reasoning</b> Using scientific methods to understand and solve problems.	Conducting an experiment in a classroom and drawing conclusions. Analyzing weather patterns. Discovering a cure for a disease.

<b>I. COMMUNICATION SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>50. Reading</b> Understanding information and ideas presented in writing.	Reading a bus schedule. Reading a manual and setting up a computer. Reading an essay in a business journal.

<b>I. COMMUNICATION SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>51. Writing</b> Communicating information and ideas in writing.	Writing a term paper. Writing a speech for a political candidate. E-mailing a friend.
<b>52. Speaking</b> Talking to others to convey information.	Greeting guests in a restaurant. Talking with business clients to determine their needs. Debating the issues during an election.
<b>53. Listening</b> Listening to what people are saying and asking questions.	Attending a study session before a test. Listening to a radio talk show. Participating in a conference call.
<b>54. Concentrating</b> Focusing on a task without interruption.	Giving small group tours in a crowded museum. Taking assessment during a storewide sale. Monitoring air traffic during peak travel times.
<b>J. PROBLEM SOLVING SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>55. Information Gathering</b> Locating and identifying information.	Using the Internet for a research project. Surveying residents for the census. Collecting forensic evidence at a crime scene.
<b>56. Evaluating</b> Judging the success or progress of an idea, work activity, or project.	Grading term papers. Judging a dog show. Analyzing the effect of a new state law.
<b>57. Advising</b> Providing consultation or advice to others.	Helping customers select a checking account. Helping new staff select an insurance plan. Reviewing the terms of a real estate deal and suggesting changes.
<b>58. Synthesizing</b> Reorganizing information to get a better approach to problems.	Outlining a textbook to prepare for an exam. Reviewing a work process for efficiency. Talking to many people about one subject and then summarizing the findings.
<b>59. Analyzing</b> Examining information and using logic to solve problems.	Selecting a computer software program. Reviewing a balance sheet for accounting errors. Determining the amount of holiday merchandise to order.
<b>60. Planning</b> Developing approaches for implementing ideas.	Planning a menu for Thanksgiving dinner. Organizing an efficient newspaper delivery route. Arranging the activities of a conference.
<b>61. Active Learning</b> Working with new material or information to understand the implications.	Receiving on-the-job training at a restaurant. Developing research laboratory test procedures through trial and error. Testing new fabrics for weather durability.
<b>62. Using Knowledge</b> Using work-related experience.	Changing a store window display before a sale. Helping customers select a television. Prescribing the proper medicines for a treatment.
<b>K. MANAGEMENT SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>63. Safety of Others</b> Managing the work environment to provide for the health and safety of others.	Driving a school bus. Keeping a wood shop clean in order to avoid accidents. Inspecting luggage at the airport.

<b>K. MANAGEMENT SKILLS</b>	<b>Work Setting Activities Indicating the Presence of this Skill:</b>
<b>64. Persuading</b> Convincing others to approach things differently.	Convincing children to eat their vegetables. Encouraging friends to take public transportation. Persuading others to vote.
<b>65. Negotiating</b> Bringing others together and trying to reconcile differences.	Discussing a pay raise. Working to complete the sale of a house. Determining the assignments for a group project.
<b>66. Confronting</b> Communicating a position opposed by others.	Disputing a grade on a paper. Arresting a criminal. Supporting an unpopular tax.
<b>67. Initiating</b> Taking on new responsibilities and challenges.	Beginning a new job. Drafting a business plan for a new company. Joining a community organization.
<b>68. Coordinating</b> Organizing people and activities to complete tasks.	Coordinating activities of a political rally. Arranging for the delivery of food for a party. Organizing the work at a construction site.
<b>69. Directing/Leading</b> Providing leadership and direction to others.	Directing a community play. Working as a youth counselor for a summer camp. Managing a research team developing a new product.
<b>70. Decision Making</b> Understanding information and reaching a conclusion to solve problems.	Determining which classes are needed to graduate. Deciding which job applicant to hire. Setting national foreign policy.
<b>71. Managing Resources</b> Determining the best use of human resources, finances, and material resources.	Organizing staff responsibilities for school newspaper. Managing retirement benefits for a company. Coordinating the budget for a sports program.
<b>72. Impact of Responsibility</b> Accepting the long-term outcome of decisions.	Changing the health benefits available for company personnel. Designing a green space in a downtown area. Planning a class schedule to meet career goals.

## Appendix B: Interpreting Your SKILLS Results

---

You selected skills you enjoy using from a list of 72 transferable skills. The SKILLS program compared the skills you selected to the skills required in over 500 occupations. The program looks for occupations that use these skills like:

- ◆ **Very Satisfying Skills:** These are the skills used constantly in an occupation. You need to use these skills very well and enjoy using them a great deal.
- ◆ **Moderately Satisfying Skills:** These skills are used almost every day, and considerable time is spent using them. You need to be competent in using them and enjoy using them.
- ◆ **Somewhat Satisfying Skills:** These skills are used occasionally. They are somewhat important for doing the work, but may not be used every day. The work will be easier if you can do them well.

Ideally, the skills you enjoy most will be the ones you will use most in your work.

### Your Reports

#### *Skills Summary*

The first part of your printout is a summary of the skills you selected. This list is printed so you can see which skills were used to find occupations for you. Use these skills in writing your resume and in job interviews. You may want to look at your list again in a year or so to see how you have changed. (If you saved your SKILLS results in your CIS Portfolio, you can restore this information in later sessions with CIS.)

#### *Holland Codes*

This printout lists a score for each Holland Personality Type. Find your top three scores and combine them to get your Holland Code. List your three highest codes in order here:

1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_

Your counselor can help interpret this code. Here is generally what the types mean:

**Realistic** - You like to work with things you can see and touch. You prefer things that seem real rather than ideas or concepts. You enjoy mechanical and/or physical tasks. You like to fix things or put things together.

**Investigative** - You enjoy logical thinking and like to understand how things work. You like scientific and mathematical tasks. You are good at solving problems.

**Artistic** - You enjoy art, dancing, acting, music. You like to express yourself freely and enjoy variety and creativity.

**Social** - You like to work with people. You enjoy solving problems by talking about them. You like helping, understanding, and teaching others. You are friendly, and you care about others' feelings.

**Enterprising** - You like to lead others. You enjoy competition and like to be in control. You are willing to be responsible for getting your work done and for supervising others.

**Conventional** - You like to keep things in order. You like clear rules and instructions. You are good with details and very careful to do things the right way.

### **Occupational Cluster Ratings**

The next printout lists a score for every CIS occupational cluster, or group of similar occupations. Both high and low scores are listed so you can quickly see how your skills relate to the 16 clusters. The negative scores tell you which clusters your skills match least, and the positive scores point to clusters where your skills match well. Highlight three to five of your highest scores. These clusters are likely to contain occupations that you will find satisfying.

### **Your Top 30 List**

Based on your selected skills, this printout lists the 30 closest occupational matches from the nearly 500 occupation titles in SKILLS. The list may be longer than 30 because all occupations that tie for 30th place are listed. Some scores are higher than others, but all occupations on the list use many skills you find satisfying. Highlight the five occupations with the highest scores. Think of other occupations that are similar and might fit you even better. Write them down on your printout.

The scores on your occupations list could range from +100 to -44. High scores mean you find satisfactory many of the skills that are used in that occupation. The more your skills vary from those required by an occupation, the lower your scores will be. Scores above 62 are very rare; the average highest score is about 48. If your scores are higher than this, it means you feel very sure about the kinds of skills you like to use. Lower scores mean you like to use many different skills, and no occupation uses all of them. If all of your scores are low, you may need a variety of hobbies in addition to your work to feel contented or fulfilled, or you may need a job that uses a wide variety of skills.

### **View Skills**

After reviewing your list of occupations, you may use the  icon next to an occupation title to go to the "View Skills" screen, which displays the list of skills needed for an occupation along with the skills you selected. This allows you to see exactly where your preferred skills match the skill requirements of the occupation. Your **Very**, **Moderately**, and **Somewhat** satisfying skills are graphically compared to the skills needed for the occupation. You can see skills you will not use as often as you might like and skills you will have to use more than you might prefer.

Mismatches are important to think about. Even when your skills closely match the skills required in an occupation, there are usually some tasks that you will not enjoy. **View Skills** will help you to find these potential problem areas. The graphic display calls your attention to both matches and mismatches. Only you can decide what to do when you find a mismatch.

*If an occupation requires a skill **more frequently** than you said you wanted, and you would prefer not to use the skill that often, circle that skill.*

*Conversely, if you will use a skill **less often** than you said you wanted, circle the skill if you really want to use it **more often**.*

When you finish reviewing an occupation, look back to see how many skills you have circled. These may be problem areas for you in this occupation. Study these mismatches carefully to decide how they affect your career decision. You are in control, but you need to recognize and have a plan for dealing with possible problem areas.

## ***Next Steps***

By now you have learned a lot about yourself and occupations. You have learned:

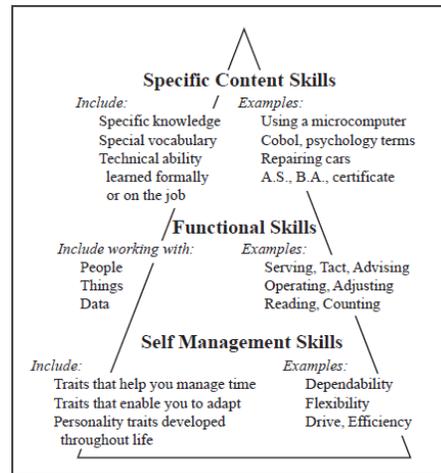
1. Which skills you enjoy most and want to use in your work.
2. Which occupations call on the skills you enjoy using.
3. Your Holland Personality Type based on your satisfying skills.
4. Which groups, or CIS clusters, of occupations best match your skills.
5. Which specific skills may cause you to be uncomfortable in or dissatisfied with an occupation you are now considering.

Your next step is to learn more about the occupations you have identified. You will also wish to know the preparation or training requirements for those occupations. Information in CIS can help you learn about the labor market and about educational opportunities. You can then set your goals and pursue your career plan.

## Appendix C: Matching Skills to Occupations

SKILLS is a self-assessment tool that uses the skills you find satisfying to identify occupations that may interest you. When you use skills you enjoy, you are more likely to be successful and happy in your work. Learning about your skills and those skills required by occupations should be an important piece of your career decision-making information.

There are three major kinds of skills, as the figure to the right shows. Self-management skills, the skills you use to manage yourself, are the building blocks of other skills. These skills provide the foundation for all good work. They are also the skills that employers value most. The next level, functional skills, are the skills that transfer from one occupation to another. Finally, specific content skills do not always transfer from one occupation to another; they may be unique to a given job.



The SKILLS program helps you learn how your preferred self-management (personal) and functional skills match the requirements of occupations. To select the skills you want to use, you can print or request the SKILLS Worksheet or SKILLS Cards from the CIS Site Coordinator. Regardless of whether you sort cards or complete the worksheet, begin by making a list of your accomplishments, projects, or activities in which you achieved a goal, explored a new challenge, or showed your capabilities. Consider achievements that you have enjoyed. These may or may not be work-related. List these accomplishments below. This information will help you sort the cards or complete the worksheet.

### My Accomplishments

*Example: Built a playhouse in the backyard.*

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_

Use this list of accomplishments to help you decide if you have ever used a particular skill and whether or not you find using that skill satisfying.

## Appendix D: 10 Things to Remember about SKILLS

---

1. Career assessment instruments do not tell you what you can or cannot “be.” They provide you different ways of looking at yourself in relation to the world of work.
2. SKILLS looks at only one of many personal attributes that are important in career choice--your preferred skills.
3. A skill is a goal-oriented behavior that can be improved with practice—in other words, **skills can be learned**.
4. SKILLS looks at **transferable skills** (self-management and functional skills), not job-specific skills.
5. SKILLS asks you to look at the **skills you like to use**, not the skills you are good at. If you would like to use a skill, it is likely you will be able to learn it.
6. SKILLS is a self-assessment tool; there are **no right or wrong answers**. The more honestly you look at yourself, the more you will get out of using the tool.
7. You can **change your skills selections** at any time.
8. The skills identification **process is as important as the SKILLS results**. Thinking about skills you like and don’t like is a self-awareness activity that you will want to use throughout your life in any career transition.
9. The Top 30 List of occupations represents occupations that are all **“good fits” with the skills you have selected**. Occupations that are not in the Top 30 list may also be “good fits.” Use VIEW to explore occupations that you have thought about, even if they are not on your list.
10. The skills you identify as preferred, especially your top five, are excellent skills to reference in resumes, job applications