DOCUMENT RESUME

ED 379 494 CE 068 321

AUTHOR McLarty, Joyce R.; Palmer, Helen T.
TITLE Are High School Students Ready To Work? A Progress Report from the Work Keys System: ACT's Nationwide Program for Building Workplace Skills.
PUB DATE Jun 94
NOTE 43p.; Paper presented at the Annual Conference of the International Personnel Management Association Assessment Council (Charleston, SC, June 1994).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Education; Basic Skills; Education Work Relationship; *Employment Potential; High Schools; High School Students; Information Systems; Information Utilization; Job Analysis; *Job Skills; *Occupational Information; Postsecondary Education; *Student Evaluation; Task Analysis; Vocational Education; *Vocational Evaluation
IDENTIFIERS *Work Keys (ACT)

ABSTRACT

In conjunction with employers, educators, and experts in employment and training requirements, American College Testing (ACT) selected 12 generic employability skills--skills crucial to effective performance in most jobs--to form the basis of the Work Keys System. They are as follows: reading for information, applied mathematics, listening, writing, teamwork, applied technology, locating information, observation, motivation, speaking, learning, and managing resources. Work Keys has as its basis a metric, or measurement scale, that could be used to compare an individual's employability skills to the requirements of a particular job. The program has four interactive components: profiling, assessment, instructional support, and research and reporting. The profiling component is a job analysis procedure that identifies the Work Keys skills and the levels needed to perform a job adequately. Data from job profiles and student assessments indicate that student skills are well below the levels required for the work force. The Work Keys System uses job profiling to create skill standards specific to the real requirements of jobs; assessments permit individuals to compare their own skills on those same scales. Using Work Keys for implementation and selection is based on four steps: job analysis, assessment, intervention, and evaluation. (Four tables and 16 figures are appended.) (YLB)

Are High School Students Ready to Work?
A progress report from the Work Keys System:
ACT's nationwide program for building workplace skills

Joyce R. McLarty, Ph.D.
Director, Work Keys Development
American College Testing Program, Inc.

Helen T. Palmer, Ph.D.
Industrial/Organizational Psychologist
American College Testing Program, Inc.

Presented to:
The International Personnel Management Association
Assessment Council Annual Conference

Charleston, South Carolina

June, 1994

Are High School Students Ready to Work?
A progress report from the Work Keys System:
ACT's nationwide program for building workplace skills

Introduction

In the past decade, concern has mounted that American workers--both current and future--lack the workplace skills necessary to meet the challenges of technological advances, organizational restructuring, and global economic competition. Increasingly, new jobs require individuals coming from high schools or postsecondary institutions to possess certain generic employability skills that include problem-solving, communications, and personal skills. If the current trends in basic skills deficiencies continue, by the year 2000, American business will be spending billions of dollars annually on remedial training programs for new employees alone. The Work Keys System from American College Testing (ACT) is an innovative response to this problem.

ACT, a not-for-profit educational organization, has long been a leader in providing action-oriented assessments used for educational and career planning and decision making. With the creation of the **ACT Center for Education and Work** and its first program, Work Keys, ACT has expanded its services to improve workplace skills. The Work Keys System, a national system for documenting and improving workplace skills, is designed to effectively serve business, industry and labor, and educational entities. Employers can use Work Keys to identify the skill requirements of jobs. This information can help them select, place or further train their employees. By providing individuals with relevant, reliable information regarding their existing skill levels and the levels needed to perform the jobs they want, ACT can help them make optimal career decisions and motivate them to improve their skill levels. In addition, educators can use the job skill information to develop appropriate curricula and instruction that targets the skills and skill levels needed in the workplace.

In conjunction with employers, educators, and experts in employment and training requirements, ACT identified generic employability skills, that is, skills crucial to effective performance in most jobs. After considerable review, ACT selected twelve critical skills to form the basis of the Work Keys System: reading for information, applied mathematics, listening, writing, teamwork, applied technology, locating information, observation, motivation, speaking, learning, and managing resources. Skill scales have now been developed for the first seven of those listed above with the eighth, observation, scheduled for release in the next year.

The Work Keys System has as its basis a metric, or measurement scale, that can be used to compare an individual's employability skills to the requirements of a particular job. Prior to the development of Work Keys, no metric existed that was suitable for measuring both the generic employability skills required for specific jobs and those same employability skills attained by the individual worker. Work Keys provides a universal metric which translates skill requirements for individual jobs into "levels" of proficiency. Such a metric makes it possible for schools to determine how to prepare students more completely for the workplace, and for businesses to

determine the qualifications of potential employees as well as to design job-training programs that will help current employees meet the demands of their jobs. By showing individuals a direct connection between their education and training and qualifying for jobs, Work Keys is designed to have a positive effect on learner persistence and achievement.

System Components

The Work Keys System is based on the premise that people with the desire to increase their skills can do so, given sufficient time and appropriate instruction. Work Keys has been developed as a multifunctional program with four interactive components: profiling, assessment, instructional support, and research and reporting.

The profiling component yields job profiles and occupational profiles. Job profiling is a systematic process of identifying the tasks most important to a specific job in a particular company and analyzing them to determine the Work Keys skills and skill levels required for effective performance on that job. Profiles of specific jobs help businesses identify the skills and skill levels employees must have to perform those jobs effectively. Businesses can use job profiling to establish standards for selection and other decision-making functions such as placement (including outplacement) and identification of training needs. Occupational profiles are generic profiles that identify the skills and skill levels required to perform an occupation across industries, companies, and positions. Educators can use occupational profiles in setting instructional targets or standards. Both job profiles and occupational profiles are useful to individuals. By consulting occupational profiles, individuals can determine whether they possess the workplace skills necessary for competence in particular occupational areas. Individuals focusing on a specific job in a particular company can use the profile of that job to determine whether they have the skills they need to qualify for it. Job profiling is currently available for each of the seven operational skill areas.

The assessment component enables individuals to identify their personal skill levels. Work Keys assessments are criterion-referenced. That is, an examinee's performance on the assessments is compared to an established scale or standard (e.g., the proficiency level of a skill that is required for performing a particular job effectively in a particular company). Individuals, educators, and employers can use the assessment results to identify areas learners and employees need to develop further in order to effectively perform the jobs they want or have. Assessments are currently available for each of the seven currently operational skill areas.

All of the assessments are constructed to be in the context of a workplace setting. Examinees are asked to respond to situations, reading passages, mathematical problems, and messages similar to those found in a wide variety of jobs. No prior job-specific knowledge is required of the examinee. The assessments are scaled using the Guttman scaling method. Each assessment consists of four or five levels and each successive level is more complex than the previous level.

The system's instructional support component is designed to facilitate the development of appropriate curricula and effective instructional strategies for teaching the Work Keys skill areas. Work Keys is developing a series of *Targets for Instruction* that provide detailed descriptions of

the cognitive and content skills assessed by the Work Keys assessments at each level and suggestions about possible approaches for teaching these particular skills. This component can be used in secondary schools, postsecondary institutions, and training programs to supplement existing curriculum and to connect it more directly to the demands of the workplace. Targets for the currently operational skill areas and instructional workshops are currently in development.

The research and reporting component is the communications network of the Work Keys System. Data from the Work Keys job profiling and assessment components are stored in the Work Keys database. This database serves as the basis for Work Keys research and can also be used to generate information to meet client research needs. Reporting facilitates the distribution of information to businesses, educational institutions, agencies, and individuals. This sharing of information is an essential function of the Work Keys System: it provides individuals, educators, and employers with the information needed to make career choices, plan training programs, screen prospective employees, and support numerous other functions.

Work Keys is currently supported by standardized assessment scoring conducted centrally at ACT. Additional assessment and scoring sites will be opened in the fall to support local Work Keys programs and services. A series of standard and customized reports ensure that Work Keys information provides a convenient, accurate, and timely means of documenting and improving the skills of the nation's workforce.

Profiling Procedure

The Work Keys job profiling component is a job analysis procedure which identifies the Work Keys skills and the levels of those skills needed to perform a job adequately. The process consists of task analysis and skills analysis. Only persons trained by ACT staff members conduct Work Keys job profiling.

A job profile identifies the skill levels employees must have to perform a specific job in a particular company (see Tables 1-3 for an outline of the job profiling procedure). Each job profile results from a computer-assisted job analysis process. *SkillPro*, a software program developed specifically for Work Keys, aids in the task analysis process. The software includes a database of 2,500 jobs and 18,000 tasks associated with those jobs from the Dictionary of Occupational Titles (U.S. Department of Labor, 1991). The jobs selected for the database have high levels of current employment and high growth potential for future employment. Job titles and tasks can be accessed jointly as well as separately in the database, a facility which allows the job analyst to search for tasks associated with specific job titles or search on key terms in the tasks alone to prepare a comprehensive list of tasks associated with a job being profiled (refer to Figures 1-6 to view selected screens from *SkillPro*).

The analyst presents this initial task list to a group of incumbent subject matter experts (SMEs) who add, delete, consolidate, and/or change the description of each DOT task until the tasks accurately depict *their* job as it is performed in *their* company. Having the task list in a software program allows the analyst to modify the task list as he or she receives instructions from the SMEs. After examining the initial task list carefully, the SMEs rate the tasks according to two

dimensions: Importance and Relative Time Spent. Importance refers to the significance of the task to overall job performance. It is rated using a six point scale ranging from "0" ("This task is not performed") to "5" ("This task is extremely important to the job I perform"). Relative Time Spent is the amount of time spent performing this task compared to that spent on other tasks. Relative Time Spent is also rated on a six point scale ranging from "0" ("This task is not performed") to "5" ("I spend a very large amount of time performing this task compared to other tasks").

The Importance rating is multiplied by the Relative Time Spent rating to obtain a Criticality rating. The *SkillPro* software calculates Criticality once the analyst enters the Importance and Relative Time Spent ratings. The tasks are then rank-ordered according to their Criticality ratings. Finally, the SMEs review the Criticality ratings in order to cull the list down to the tasks most critical to their job. Normally, this process involves removing the least important tasks, and making any necessary revisions to the remaining task descriptions. Once the SMEs are satisfied with the task list, the task analysis phase of job profiling is completed.

This final task list is then used in the skills analysis phase of job profiling. The SMEs work with each Work Keys skill separately. The SMEs are presented with the definition for one Work Keys skill and they are asked to identify the job tasks which require that skill. The analyst continues the process by presenting a detailed description of a level of the skill to the SMEs. This description consists of a definition of what employees should be able to do at that level (material taken from the test specifications for the assessment measuring the skill) and two examples of work at that level. The SMEs review one skill level at a time. For each skill level reviewed, SMEs are asked to judge whether the level of that skill used in their job is lower that the skill level being reviewed, about the same or higher. The SMEs continue with this process until they come to a consensus regarding the level of the skill required for the job as a whole. They always see at least three levels, the level they feel is appropriate for their job, one level below and one level above, so that they can be sure they chose the correct level. This skills analysis procedure is repeated for each Work Keys skill.

When job profiling is conducted for use in selection and promotion decisions, this process is repeated by at least one other independent group of SMEs and, depending on the number of employees in the job classification being profiled, possibly by more than two groups. The final product of this profiling process is a document listing the most critical tasks an individual in the job must perform and, for each relevant skill area, the level of that skill required for the job.

In contrast to job profiles which are based on the requirements of a job in a particular company, occupational analyses identify the skill levels required for an occupation across jobs, companies or industries. As in job profiling, occupational profiling relies on the expertise of the SMEs, those people most closely associated with how the work is performed. However, in occupational profiling, SMEs may come from different organizations and from related jobs in an occupation (e.g., a profile of the secretarial services occupation may draw SMEs from jobs such as Clerk, Receptionist, Secretary, Stenographer, and Executive Secretary).

As with job profiling, the occupational profile is based on the identification and evaluation of tasks critical to the occupation, followed by the skills analysis procedure. Occupational profiles, however, are best suited to setting instructional standards and developing curricula designed to help students meet the skills requirements of occupations. Professional organizations may also use occupational profiles to establish skill standards for an occupation.

The Work Keys System and Legal Issues

In developing the Work Keys System, ACT has been guided by the Uniform Guidelines on Employee Selection Procedures (EEOC, 1978). Items written and selected for Work Keys assessments go through a series of screens to help to ensure job-relatedness and fairness. For example, both minority review, a judgmental process, and a differential item functioning (DIF) analysis, a statistical procedure, are used to identify possible differences in responses among racial groups and between men and women prior to construction of the operational assessments. The comprehensive and systematic analysis of jobs helps employers identify the important tasks as well as the levels of skills needed to perform those tasks. Careful attention to both the development of the assessments and the job profiling procedure results in the Work Keys System being consistent with the standards for content validity established in the Guidelines.

In addition to the Guidelines, the Standards for Educational and Psychological Testing (1985) and the Principles for the Validation and Use of Personnel Selection Procedures (1987) address content validity. A review of these documents indicates an emphasis on the quality of validity evidence independent of the validation strategy used (Arvey & Faley, 1988). Arvey & Faley (1988) also report that a review of court cases indicates that the courts find content validity issues more understandable than issues related to criterion validity. In addition, courts have recognized the value of thorough job analyses and professional methods used to develop assessments in establishing content validity (Kirkland v. New York Department of Correctional Services, 1974). Further, several court cases such as Bridgeport Guardians v. Police Department (1977) and Detroit Police Officers Association v. Young (1978) provide evidence that a content validation strategy based on a detailed job analysis and using one or more well constructed tests which address the critical aspects of the job is accepted as a valid legal defense.

An additional advantage of the Work Keys System is that job profiling is based on the same metric as the assessments. This results in the skills analysis conducted by the SMEs directly establishing the appropriate passing score, i.e., level of proficiency for the assessments. This characteristic of Work Keys eliminates one of the more complex and controversial problems of traditional employment testing: where to set a legally defensible cutting-score for selection. In addition, because the scores on Work Keys assessments are criterion-referenced rather than norm-referenced, they reflect what individuals can do relative to job requirements, not relative to scores by other individuals who have taken the assessments.

The Work Keys System identifies pools of qualified applicants who have achieved the levels of skill proficiency needed to perform a job as determined through job analysis. It is through this pool of qualified applicants that Work Keys can be used to help employers with their affirmative action planning. Work Keys assessments will be used in many high schools, community

colleges, and technical schools. As a result, and with examinee permission, ACT will be able to provide employers lists of candidates with the job appropriate skills profile. To further assist employers with any affirmative action planning that they might undertake, Work Keys can also provide data about the numbers and percentages of qualified protected group members in the local, regional, or national workforce.

Results of profiling jobs and assessing students

In order to determine how ready high school students are to perform competently in the workforce, it is necessary to know two things: what skills and skill levels jobs currently require, and what skills and skill levels high school students currently have. The Work Keys job profiling system provides the first type of data; the Work Keys assessment system provides the second.

Work Keys staff have currently trained more than 110 individuals to conduct profiling using ACT's proprietary *SkillPro* software and they are beginning to develop and share job profiles (i.e., profiles that represent the job as it exists in a specific company). In addition, Work Keys staff members and some additional individuals in Ohio have been working with occupational profiles - profiles that represent a job or job class as it appears across companies. Occupational profiles are especially useful to educators since they provide standards for training.

An initial set of profiles is provided in Table 4. This is simply the jobs that individual profilers have submitted, so it is not representative of jobs in general (or in a specific industry, geographic area, or other category). Nevertheless, it provides a first picture of what Work Keys skills and skill levels are required of competent employees in jobs in the United States. Notice that for three of the assessments, there are fewer profiles than the others. That is because these were released a year later than the other four; early profiling addressed only the first four. Profilers are in the process of reviewing these profiles in order to add the other skill areas.

In the four skill areas where more profiling has taken place, jobs have been identified as requiring a variety of levels. As additional jobs are profiled, the picture of the skill levels required both generally and within specific categories of jobs will become clearer.

Because of the criterion-referenced nature of the assessments (they are used to compare each examinee to the skill scale rather than one examinee to another), the levels are not comparable across skills. That is, there is no sense in which a 3 in *Reading for Information* is directly comparable to a 3 in *Writing* or a 3 in *Applied Technology*. Note also that the skill scales are different for the different assessments. There are two reasons for this. The first is that the Listening and Writing skills are assessed with an essay (constructed response) format, and so the scores are not affected by guessing. In fact, there is a true zero point on those scales. Of course. that zero shows as a score in the assessments but as a "not required" for the jobs.

For the multiple-choice assessments it was determined to start the scales at 3 since the easiest tasks were well above "no skill." The tops of the scales were identified as the highest level it would be reasonable to expect without specialized training. Then it was determined how many levels could be fit between those points. In some cases it was possible to define five levels

(3 - 7), in other cases four were more appropriate (3-6). Since the skills are independent this should not be a problem, but it is important to recall the scale when interpreting scores on it.

To date, Work Keys has assessed 25,000 to 50,000 examinees on each of the skill scales, most of them high school juniors and seniors in one southern and one midwestern state. Although the data are not nationally representative, they are sufficient to provide at least a preliminary description of student performance. A few students were able to reach the top of each score scale. However, in most cases students' scores were relatively low with respect to the score scale. This was especially true for *Applied Technology* and for *Listening*.
Since the score scales were defined on the basis of anticipated business need, this initial result suggests that students are not well prepared for the workplace in these skills.

Job profiles provide more specific data on the skill requirements of individual jobs. As with the examinee data, the job profile data is not nationally representative. In addition, the number of profiles conducted to date is quite small (under 25), most of the jobs profiled do not require a baccalaureate degree, and most profiles have included only the first four skill areas available (Reading for Information, Applied Mathematics, Listening and Writing). Nevertheless, the data provide a tentative description of the skills requirements of entry-level jobs. We see clear modal skill levels toward the center of the scales for reading and mathematics (in both cases 5 on a scale from 3 to 7), and modes at or near the top of the scales for listening and writing (4 or 5 on a scale from 0 to 5).

Figures 7 - 10 combine the data for job profiles and student assessments. It is here that it is possible to determine, on a skill-by-skill basis, the degree to which students are generally prepared for work. Recalling that neither the student nor the profile data are nationally representative, it is possible to get a first look at what the relationships between student skills and job requirements may be.

Based on these data, student skills are well below the levels required for the workforce. Just over half of the students assessed are able to perform at least level 5, the modal level, in Reading for Information, probably the most taught of the skill areas in traditional curricula. Less than a quarter of the students reached the modal level in Applied Mathematics, and performance in the other skill areas was still poorer. Fewer than 15% of the students can score at or above the model level on Writing skills, and less than 1% of the students can score at the modal level of Listening skills. This performance is, in general, well below the level required on entry level jobs. Although the number of profiles available does not yet permit this type of analysis, it appears that students' Applied Technology skills are also at a much lower level than generally required.

The most relevant consideration in workforce preparation, however, is not the skills of groups of students with respect to the skills of groups of jobs. Rather, it is appropriate to look at the performance of subgroups of students with respect to the job for which they are preparing, or to individual jobs with respect to the subgroup of students prepared to do them. Current data are limited with respect to addressing these issues as well, but it is possible to convey something of the situation we may be facing. Figures 11 - 14 show the choices available to individuals

seeking jobs, based on their current skill levels, and the choices available to employers seeking qualified applicants based on the skill levels required by their jobs for the same four skill areas discussed above.

These may be unfamiliar formats, so an example interpretation is offered. Figure 7, Reading for Information shows that 14% of the jobs profiled require only Level 3 reading skills, and that 94% of the students tested were qualified to do those jobs (i.e., competitive for them). By Level 5, however, only 54% of the students were qualified for a pool representing 84% of the jobs.

Models of Work Keys use

The Work Keys System uses job profiling to create skill standards specific to the real requirements of jobs, and assessments to permit individuals to credential their own skills on those same scales. This is the case regardless of where the individual learned the skill; in school, in the workplace, or in the community. The Work Keys scores thus reflect demonstrated skill levels rather than completion of a specific educational program, the opinion of a particular educator or supervisor, or tenure in a classroom or job. The Work Keys System is intended to supplement rather than to replace these and other relevant sources of information about individuals' skills in a variety of situations.

Regardless of the specific application of the Work Keys system, there will generally be four steps in implementing the Work Keys System (see Figures 15 - 16). First, it is necessary to profile the job(s) or occupation(s) of interest. This provides information about the skills standard that is relevant to the other activities. Although profiles completed by others for other purposes may not be as directly relevant as those developed for the express purpose, review of existing profiles may serve to supplement or even supplant direct job profiling in some cases.

Second, one assesses the individuals whose skills are of interest. These may be characterized according to their relationship to the organization implementing Work Keys as students, applicants, or employees. Of course, the same individual may be in more than one of these roles (e.g., an employee who is applying for a promotion). The assessment describes the individual's skills and allows comparison of those skill levels with the skill levels identified in the job profiling.

Third is intervention. The intervention may be to improve the skills, as with instruction or training. It may also be to select or place the individual in a suitable job. In either case, this step involves the organization taking some action with respect to the individual.

Finally, it is necessary to evaluate to determine whether the outcome of the action is satisfactory. Where the action involves instruction, the evaluation may well include additional assessment of individuals' skills. Where the action involves a selection (initial hire, promotion), then validation of the success of that action may include appropriate criterion measures e.g., retention on the new job, supervisory ratings, production records).

Using Work Keys for selections is based on these same four steps. First, the job must be profiled. In order to meet legal requirements for content validation, it may be necessary to carefully select the subject matter experts to be representative of the employees doing the job and to conduct one or more replications of the profile to ensure their reliability. Assessment of applicants can be used to identify the pool of qualified applicants, with other means used to make final selections if the pool is sufficiently large. Finally, it is important to consistently monitor the adequacy of the applicants selected to ensure that the system is working properly. This provides maximum benefit to the employer.

Equally important, however, is the benefit that the Work Keys System can provide to the community. Work Keys allows employers to provide a clear description of the generic skills required by jobs to educators. In addition, it provides information on how to improve skills to applicants who do not meet the profile requirements of the jobs they desire. In these ways, the Work Keys System helps to support America's most renewable resource, its workforce.

References

American Psychological Association (1985). Standards for Educational and Psychological Testing. Washington, DC: APA.

Arvey, R. D., & Faley, R. H. (1988). Fairness in Selecting Employees (2nd ed.). Reading, MA: Addison-Wesley.

Bridgeport Guardians v. Police Department, 15 FEP 486 (1977).

Detroit Police Officers Association v. Young, 16 FEP 51007 (1978).

Equal Employment Opportunity Commission (1978). "Uniform guidelines on employee selection procedures," Federal Register, 43, 38290-38315.

Kirland v. New York Department of Correctional Services, 7 FEP 700 (1974).

Society for Industrial-Organizational Psychology, American Psychological Association (1987). Principles for the Validation and Use of Personnel Selection Procedures (3rd ed.). College Park, MD: APA.

U.S. Department of Labor, Employment and Training Administration (1991). Dictionary of Occupational Titles (4th ed., revised). Washington, DC: U.S. Government Printing Office.

Table 1: Job Profiling

I. Task Analysis

- Analyst creates an initial task list using the SkillPro software.
- Analyst meets with incumbent SMEs to review/edit the initial task list.
- SMEs rate tasks for Importance and Relative Time Spent.
- Analyst enters ratings into SkillPro and Criticality (Importance X Relative Time Spent) is computed.
- SMEs review Criticality ratings and determine the final task list.

Table 2

II. Skills Analysis

- SMEs work with each Work Keys skill separately.
- Analyst presents SMEs with the definition of a skill.
- Using the final task list, SMEs are asked to identify tasks which require that skill on the job.
- Analyst presents a detailed description of a level of the skill to the SMEs.
- The SMEs review one skill level at a time.

Table 3

Skills Analysis (continued)

- For each skill level, SMEs are asked to judge whether the level of that skill used in their job is lower than the skill level being reviewed, about the same, or higher.

- SMEs continue this process until a consensus is reached regarding the level of the skill required for the job as a whole.

- The SMEs always see at least three levels, the level they feel is appropriate for their job, one level below and one level above, so that they can be sure they chose the correct level.

Table 4

6/22/94

WORKKEYS™

PROFILES

Dictionary of Occupational Titles (DOT)	DOT NUMBER	NO. OF COMPANIES	NO. OF SESSIONS	PROFILE① (Score Range) RFI (3-7)	AM (3-7)	L (0-5)	W (0-5)	LI (3-6)	AT (3-6)	TW (3-6)	JOB/ OCCUPATION ②	DATE	STATE
Electrical Technician	003.161-010	3	1	7	>7	5	4	>6	>6	NC	Occupation	3/94	TX
Electronics Technician	003.161-014	1	1	5	7	4	4				Job	3/94	IA
Nurse, General Duty	075.364-010	1	1	6	5	5	4				Job	12/93	TN
Nurse, Licensed Practical	079.374-014	1	1	7	6	5	5				Job	12/93	TN
Inspector, Quality Assurance	168.287-014	1	1	4	4	4		4		4	Job	5/94	IL
Administrative/Secretarial Services	201.000-000	9	1	6	6	5	4	5	4	5	Occupation	6/94	OH
Secretary (Clerical)	201.362-030	1 1	1 1	5 5	5 4	5 5	5 5				Job Job	10/93 11/93	IA IA
Teller (Financial)	211.362-018	1	1	5	5	5	4				Job	4/94	IA
Cashier - Checker (retail trade)	211.462-014	1	1	3 or 4	3	3	3				Job	1/94	IA
Customer Service Representative (Radio-TV Broad; Tel. & Tel.; Utilities; Waterworks)	239.362-014	1 1	1 1	5 5	5 5	5 5	4 4				Job Job	7/93 11/93	IA IA
Claim Clerk I (Insurance)	241.362-010	1	1	5	6	5	4				Job	4/94	IA
Order Clerk (Clerical)	249.362-026	1	1	5	3	5	4				Job	12/93	TN
Professional Sales Associate	261.000-000	10	3	5	5	5	4	4	3	4	Occupation	4/94	Nat'l

ACT

Table 4

PROFILES

6/22/94

Dictionary of Occupational Titles (DOT)	DOT NUMBER	NO. OF COMPANIES	NO. OF SESSIONS	PROFILE① (Score Range) RFI (3-7)	AM (3-7)	L (0-5)	W (0-5)	LI (3-6)	AT (3-6)	TW (3-6)	JOB/ OCCUPATION ②	DATE	STATE
Salesperson, Men's & Boy's Clothing (Retail Trade)	261.357-050	1	1	5	5	5	3				Job	7/93	IA
Salesperson, Women's Apparel or Accessories (Retail Trade)	261.357-066												
Manager, department (retail trade)	299.137-010	1	1	5	5	3 or 4	3				Job	1/94	IA
Waiter/Waitress, Informal (Hotel and Restaurant)	311.477-030	1	1	4	4	5	1				Job	7/93	IA
Police Officer I	375.263-014	1	1	4	5	5	4				Job	12/93	TN
Mixing-Machine, Operator	520.665-014	1	1	3	3	5		3		3	Job	5/94	IL
Numerical Control Machine Operator (Machine Shop)	609.362-010	1 1	1 1	5 5	5 6	4 4	3 3				Job Job	3/93 9/93	IA IA
Machine Operator I (Any Industry)	616.380-018	1	1	4	4	4	1				Job	3/93	IA
Agricultural/Industrial Mechanical Technician	638.000-000	5	1	5	5	4	3	4	6	3	Occupation	4/94	OH
Maintenance Mechanic (Any Industry)	638.281-014	1 1	1 1	7 5	6 or 7 6	4 4	4	 5		 5	Job Job	9/93 5/94	IA IL
Instrument Technician	710.281-030	2	1	5	7	4	3	6	6	3	Occupation	3/94	TX
Electrical Assembler	729.384-026	1	1	4	3	3	NA				Job	3/94	IA
Furniture Assembler (Furniture)	763.684-038	1	1	3	3	1	1				Job	3/93	IA
Line Repairer	821.361-026	1	1	6	7	4	3				Job	3/94	IA
Electrician (Construction)	824.261-010	8	1	5 or 6	6 or 7	4	3 or 4	5	5	3	Occupation	3/94	TX

Table 4

PROFILES

6/22/94

Dictionary of Occupational Titles (DOT)	DOT NUMBER	NO. OF COMPANIES	NO. OF SESSIONS	PROFILE① (Score Range) RFI (3-7)	AM (3-7)	L (0-5)	W (0-5)	LI (3-6)	AT (3-6)	TW (3-6)	JOB/ OCCUPATION ②	DATE	STATE
Packager, Hand	920.587-018	1	2	3	3	3		4		5	Job	5/94	IL
Packager, Machine	920.685-078	1 1	2 1	3 4	4 5	4 4		4 4		4 4	Job Job	5/94 5/94	IL IL
Industrial - Truck Driver	921.683-050	1	1	5	5	4		4		6	Job	5/94	IL
Meeting Planner	Emerging Occupation	6	1	5	5	4	5	4 or 5	NA	4	Occupation	3/94	TX

① RFI = Reading for Information; AM = Applied Mathematics; L = Listening; W = Writing; LI = Locating Information; AT = Applied Technology; TW = Teamwork
If a cell is blank, the skill was not profiled for this Occupational Title.

② Job = Profile conducted for a specific job at a specific company.
Occupation = Profile conducted as part of an industry-wide standard study OR to represent a particular job across companies.

NA Not Applicable

NC No Consensus

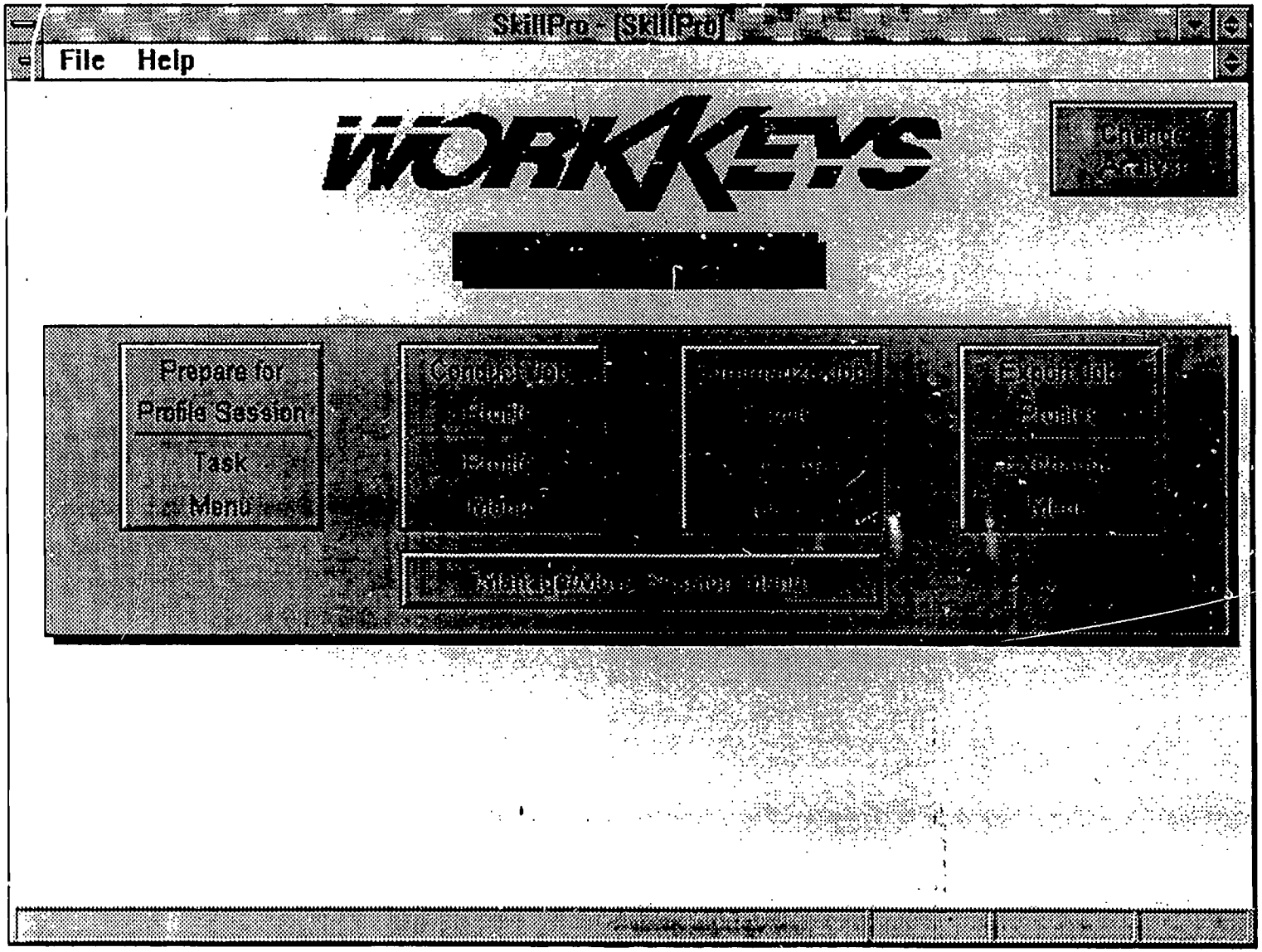


Figure 1: Main Menu

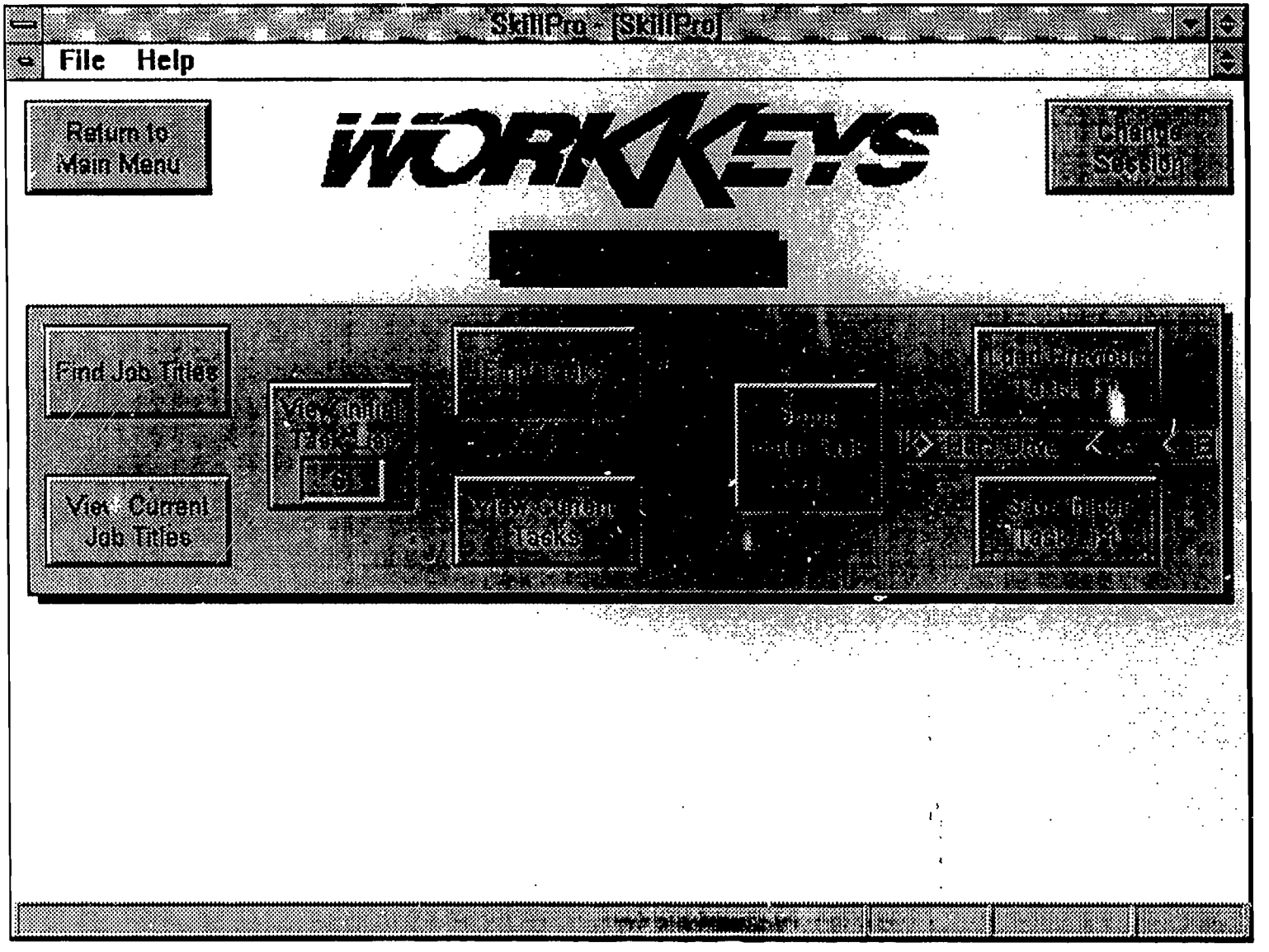


Figure 2: Task Menu

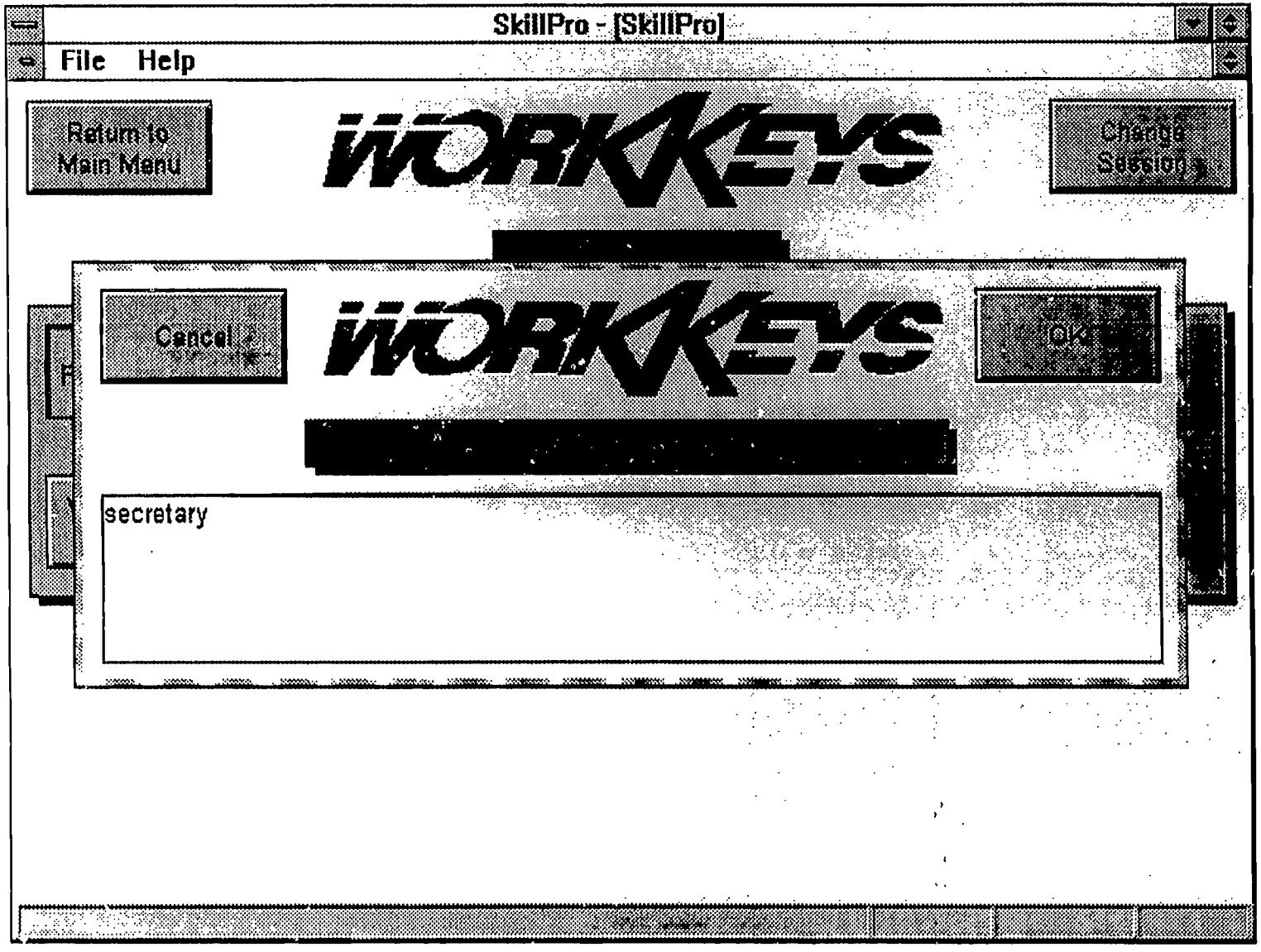


Figure 3: Entered Text

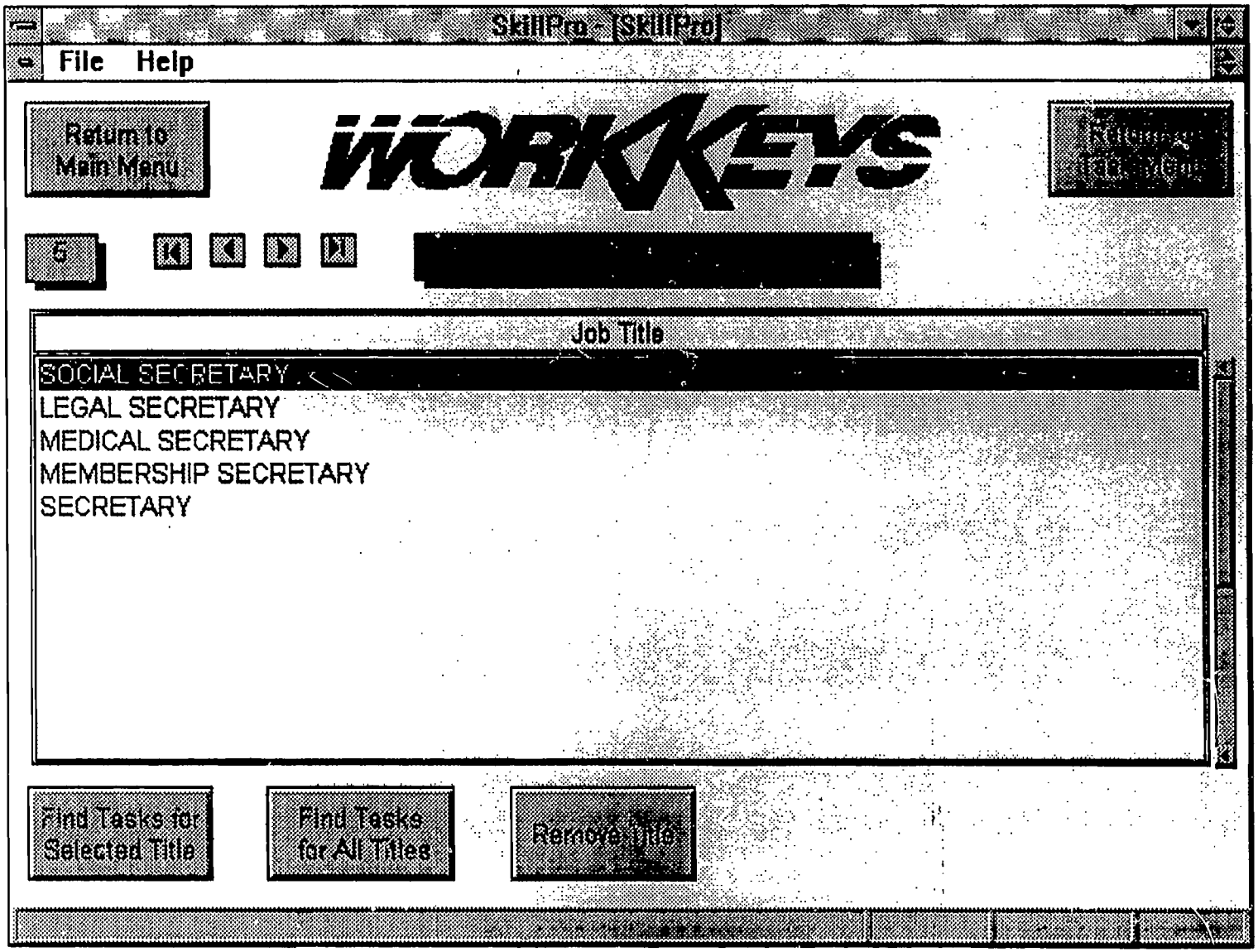


Figure 4: Job Titles Found

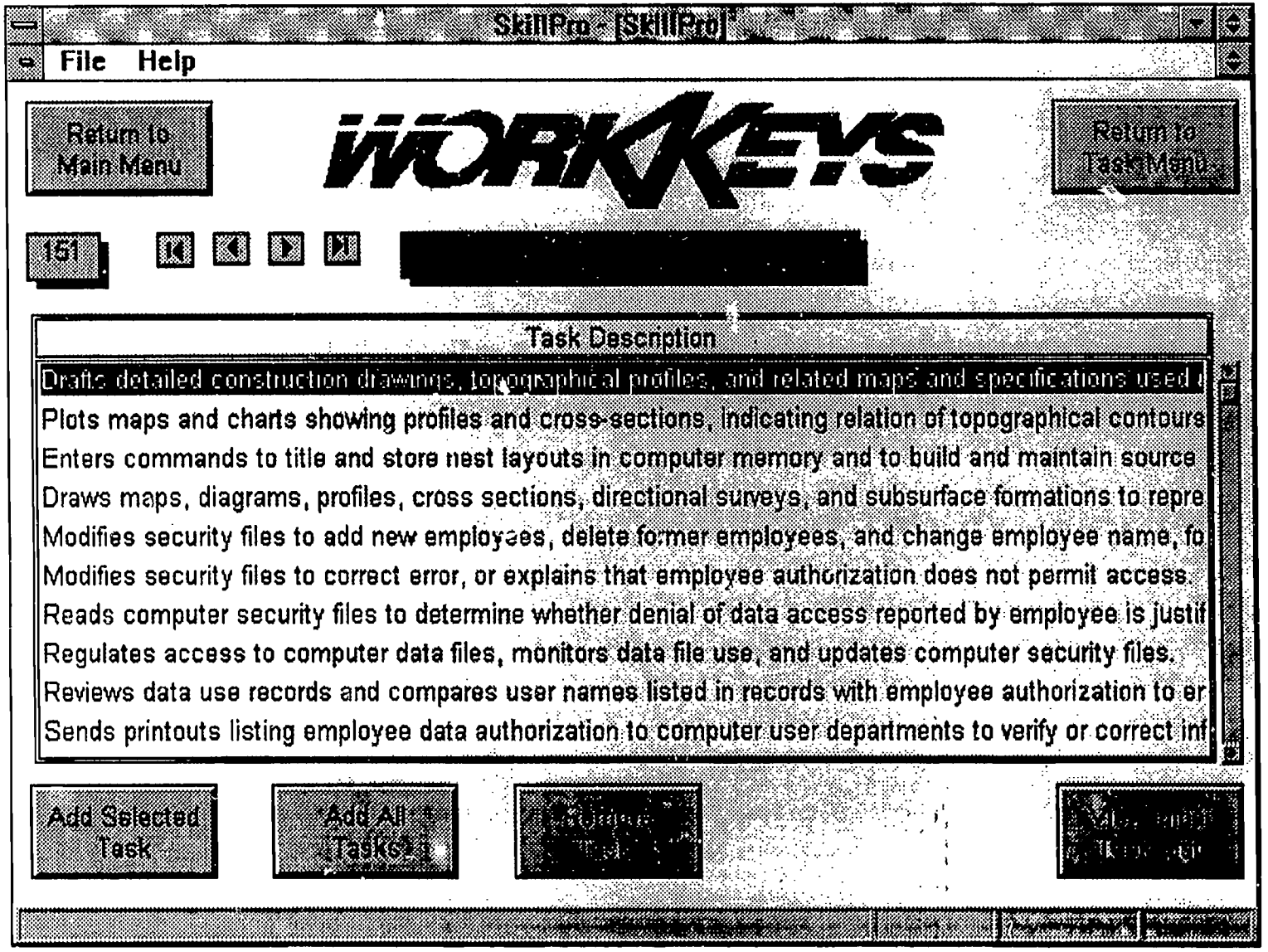


Figure 5: New Tasks Found

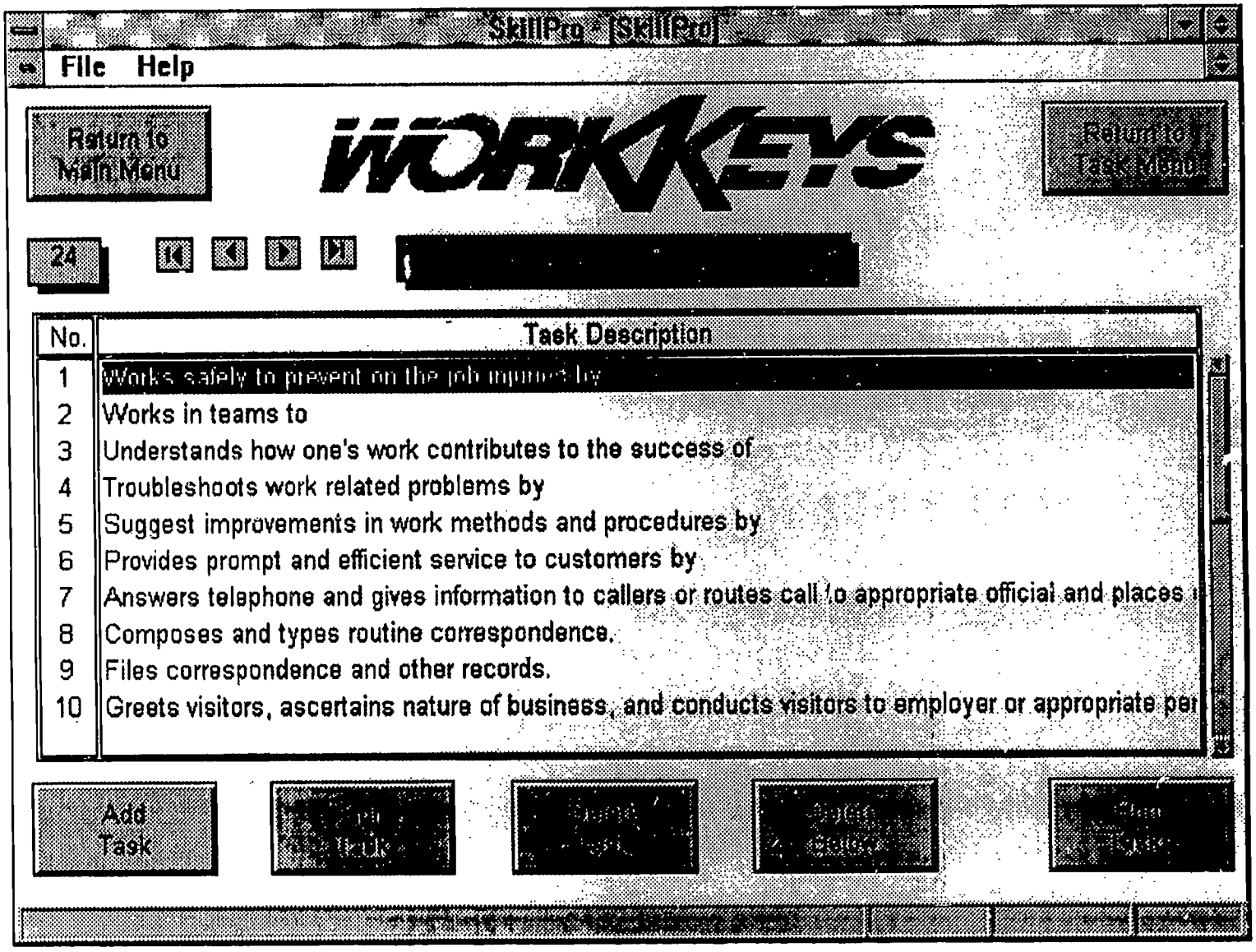
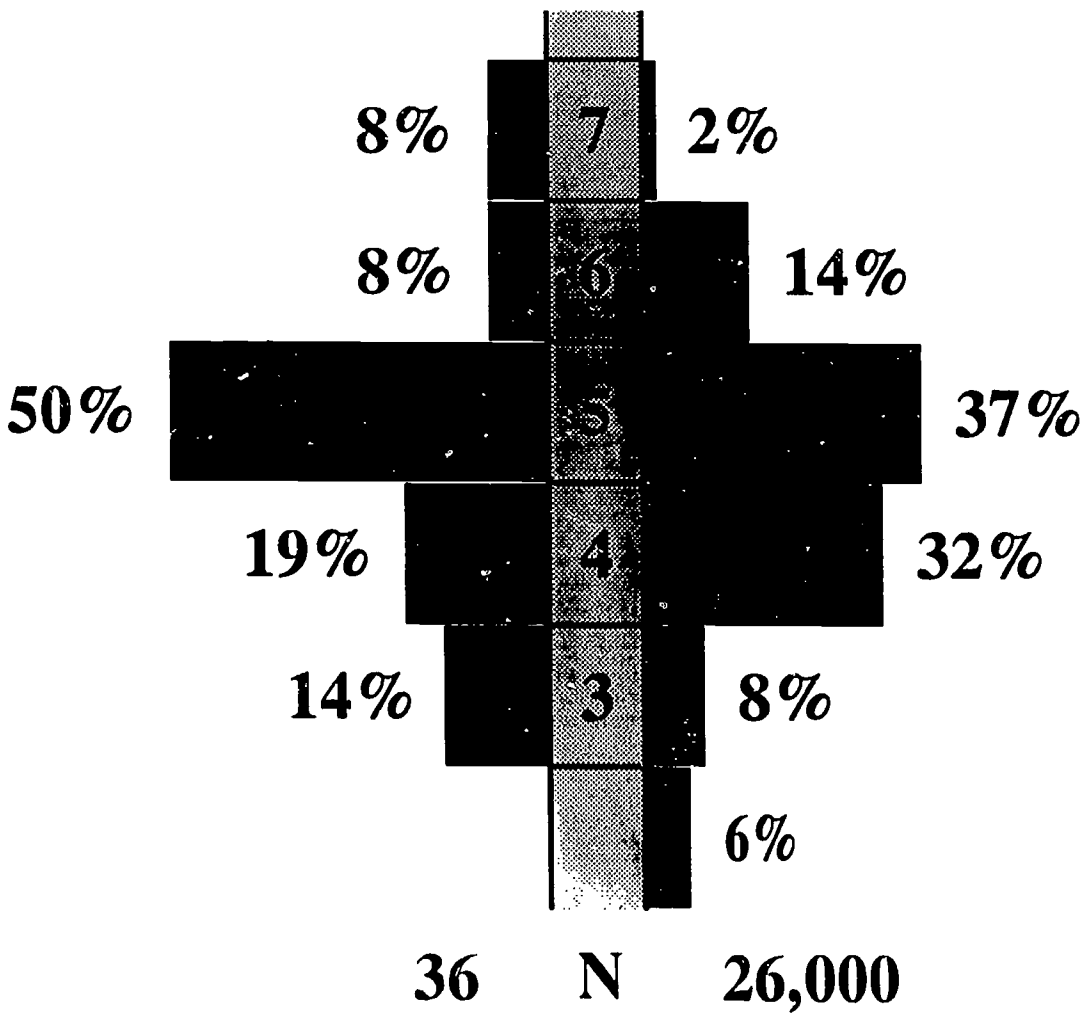


Figure 6: Initial Task List

Figure 7

WORKKEYS™

Reading for Information



Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

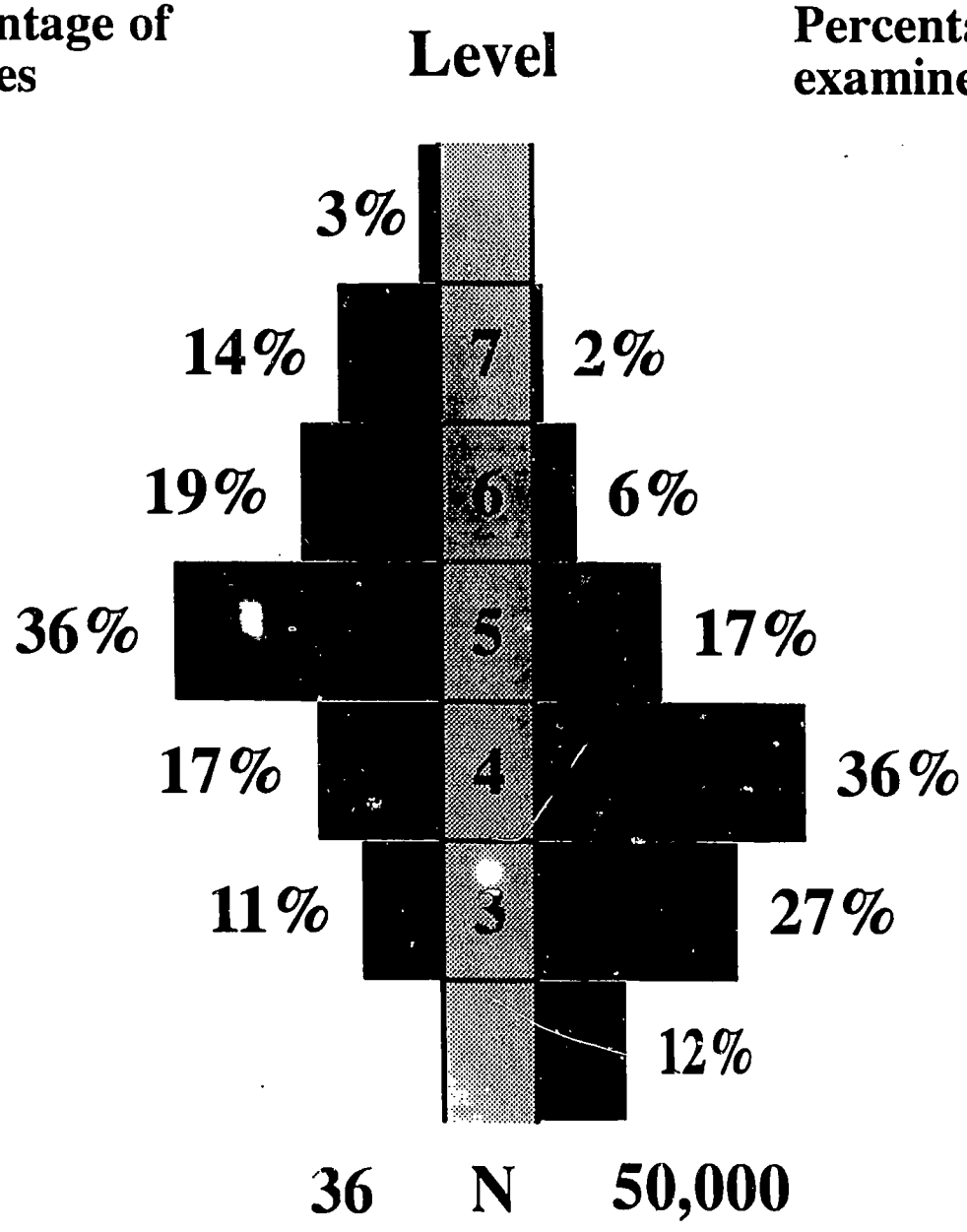
ACT

6/8/94

Figure 8

WORKKEYS™

Applied Math



Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

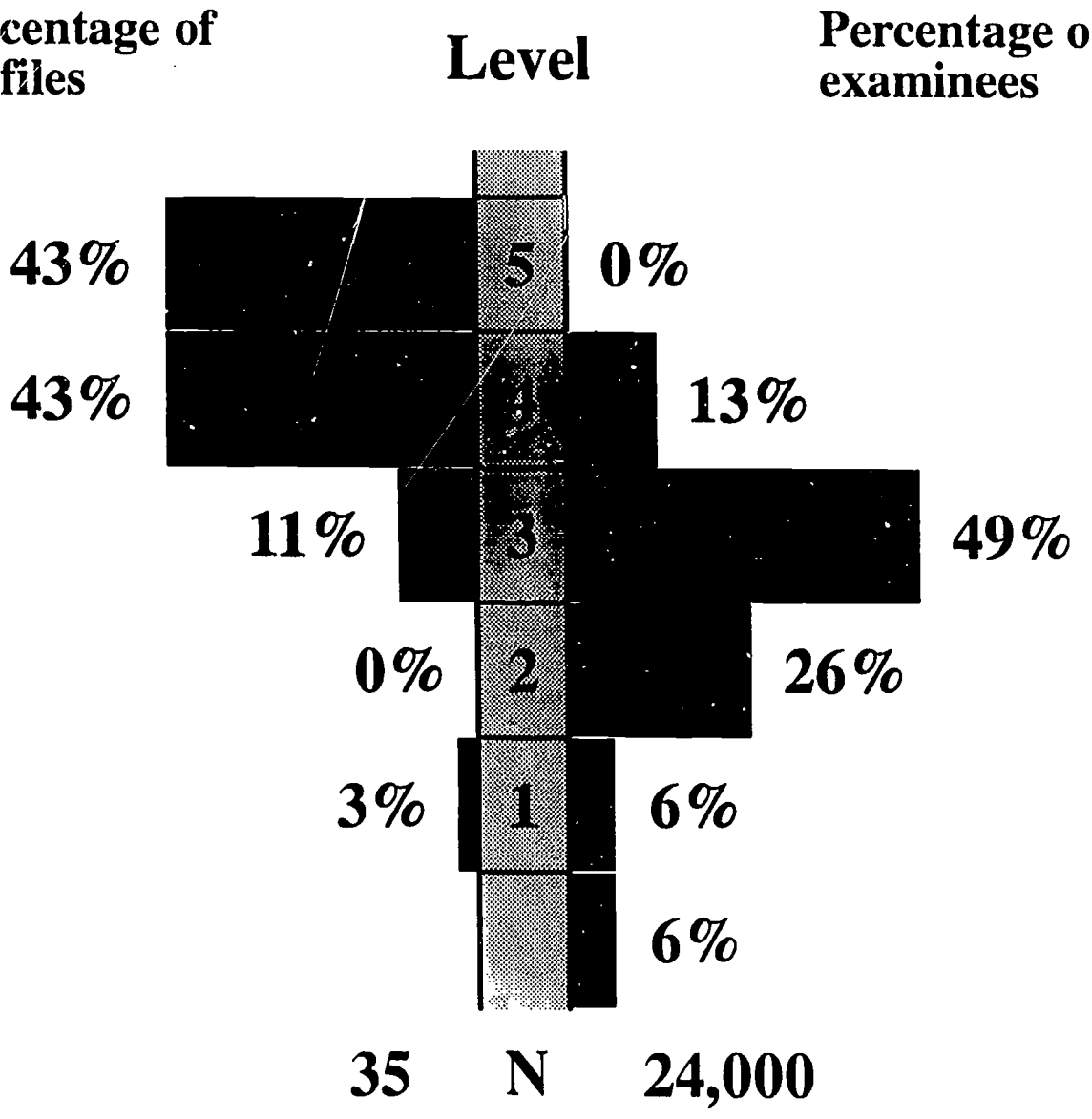
ACT

6/8/94

Figure 9

WORKKEYS™

Listening



Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

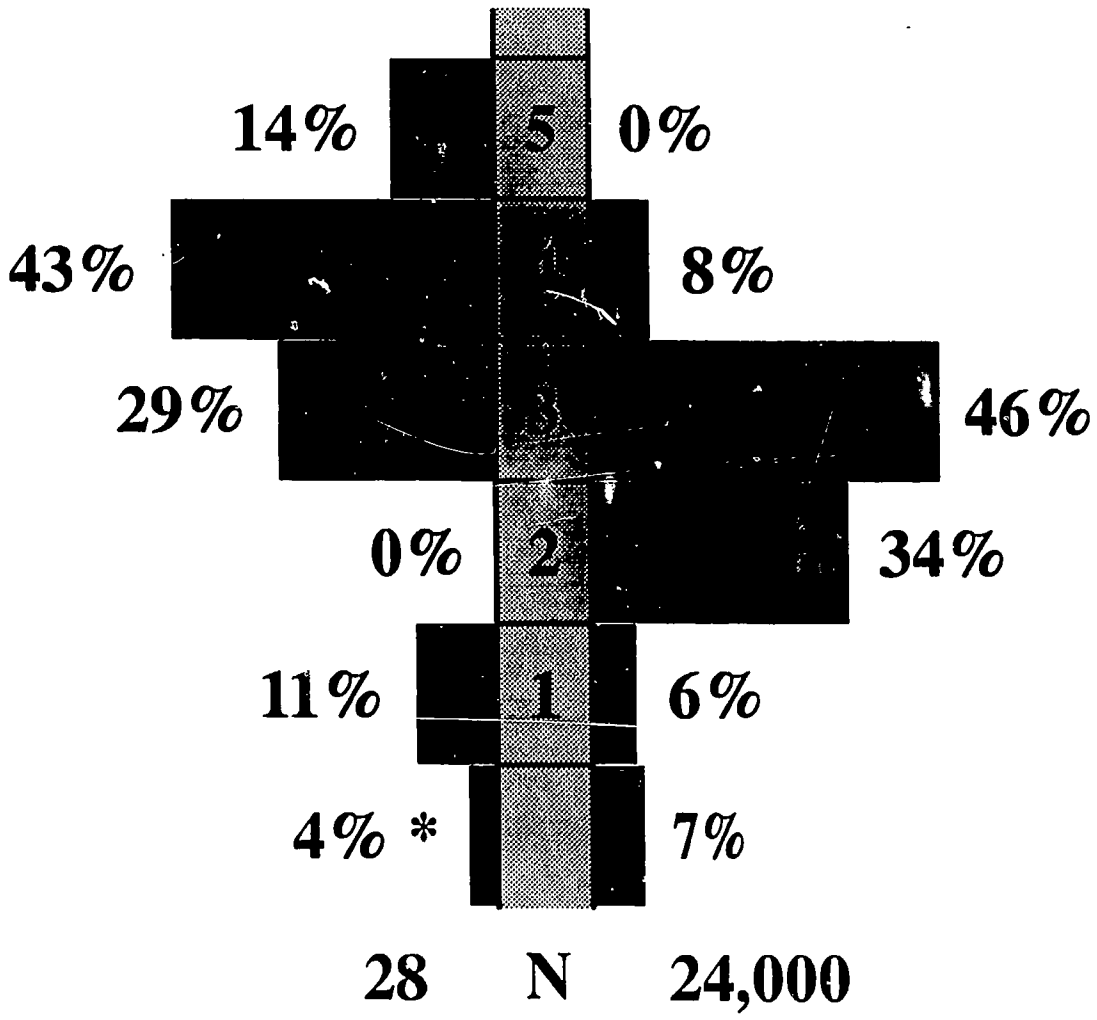
ACT

6/8/94

Figure 10

WORKKEYS™

Writing



* Not Applicable

Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

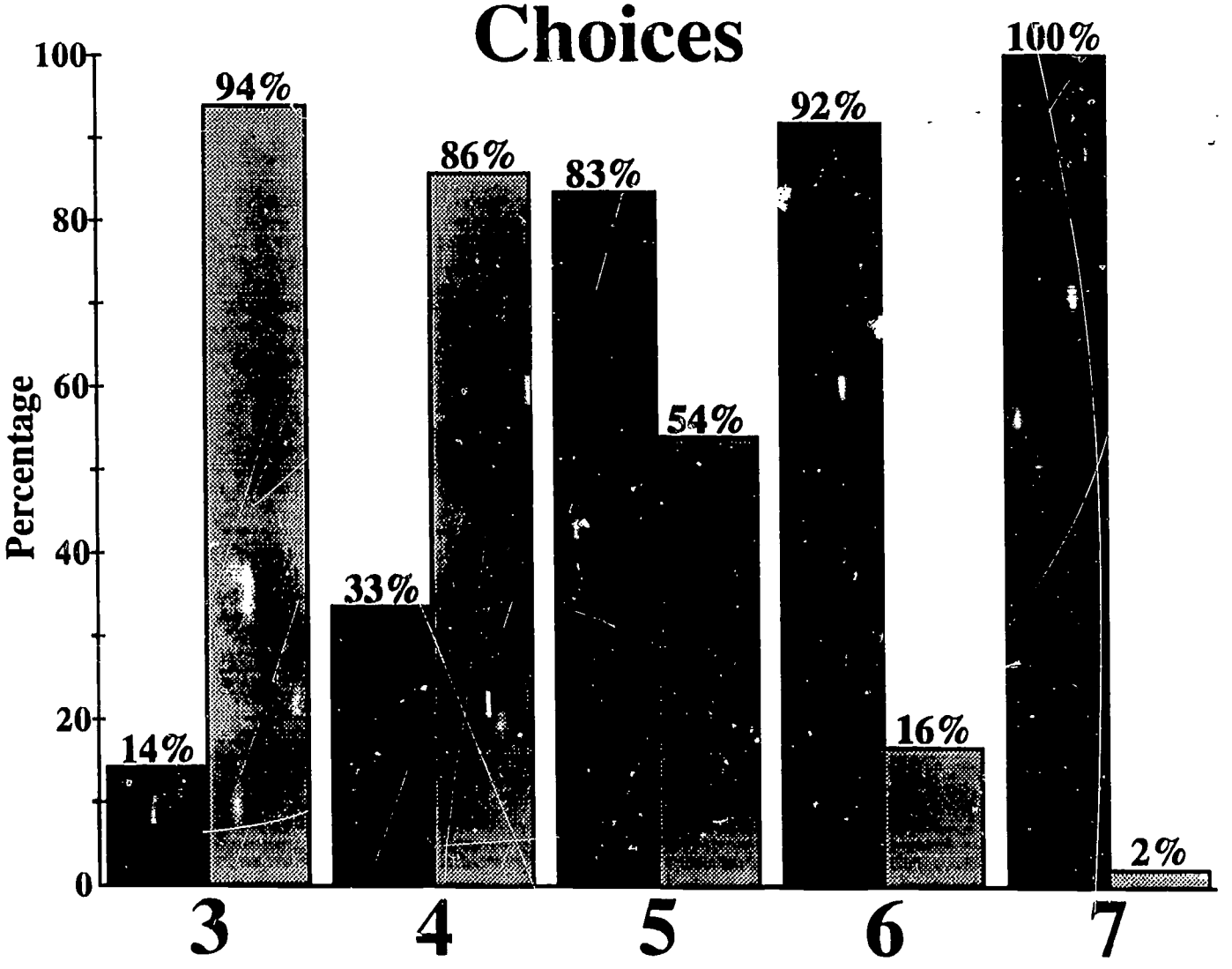
ACT

6/8/94

Figure 11

WORKKEYS™

Reading for Information Choices



Percentage of jobs profiled that can be filled by someone with at least this level of skills. (N = 36)

Percentage of people assessed with at least this level of skills. (N = 26,000)

Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

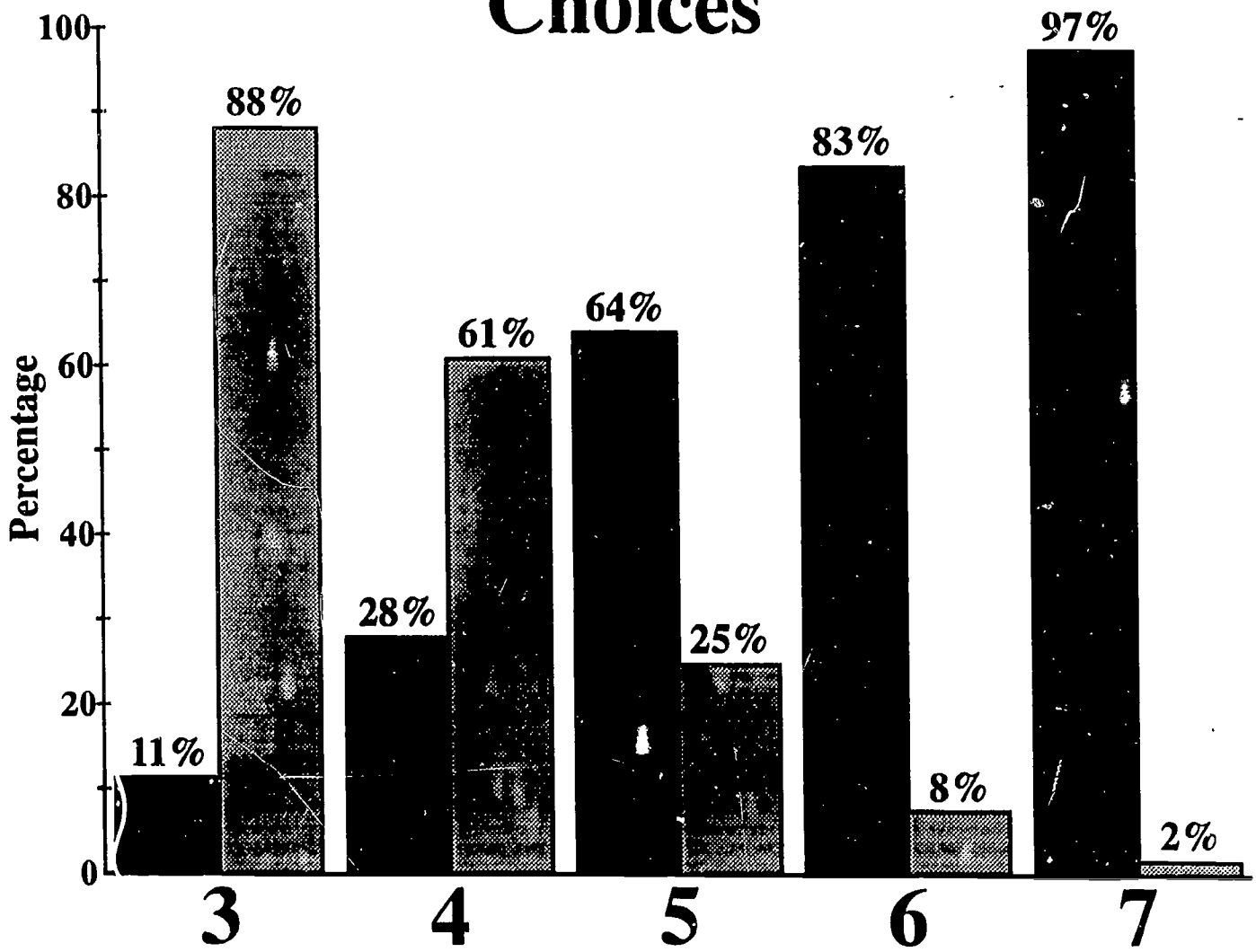
ACT

6/8/94

Figure 12

WORKKEYS™

Applied Math Choices



Percentage of jobs profiled that can be filled by someone with at least this level of skills. (N = 36)

Percentage of people assessed with at least this level of skills. (N = 50,000)

Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

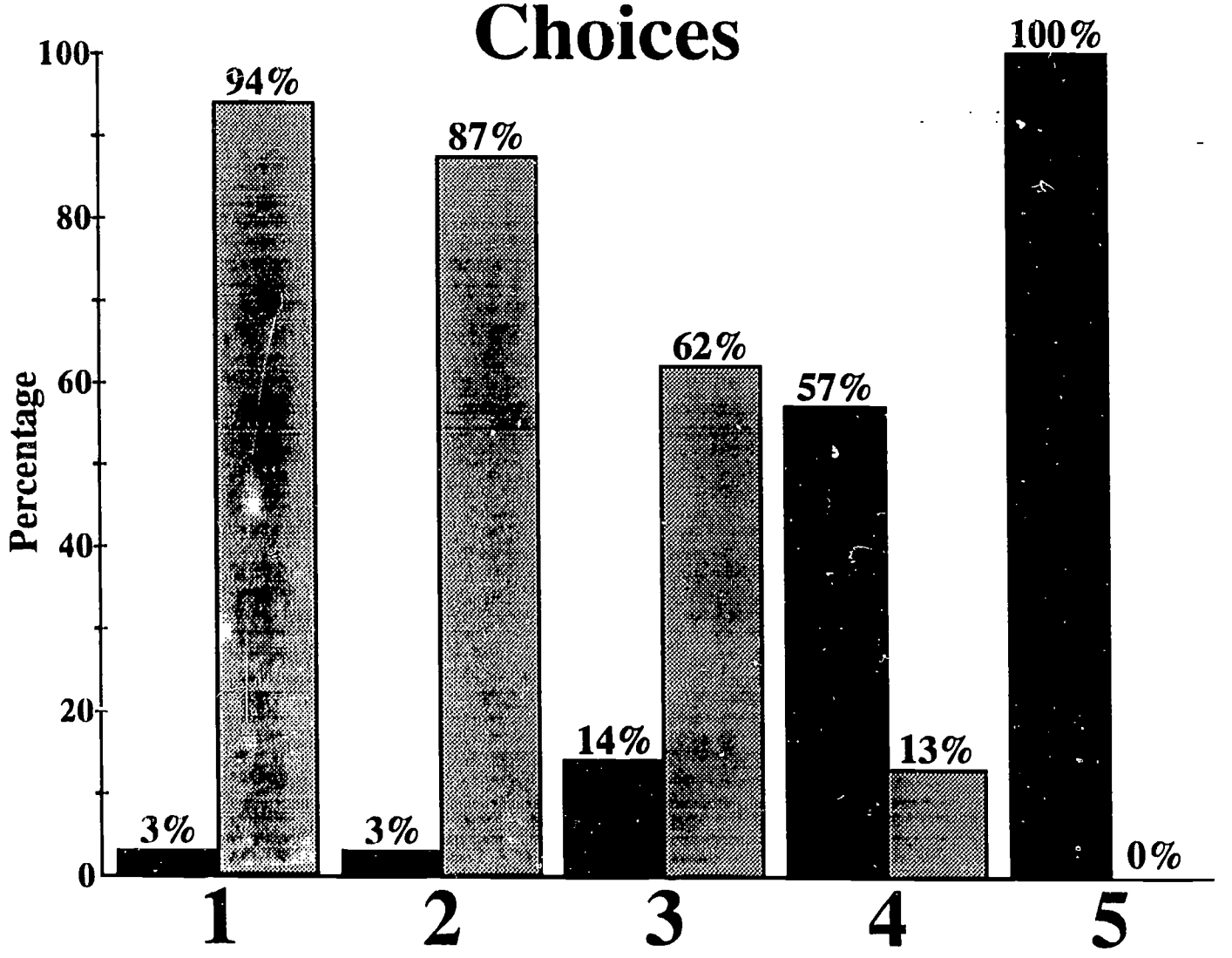
ACT

6/8/94

Figure 13

WORKKEYS™

Listening Choices



Percentage of jobs profiled that can be filled by someone with at least this level of skills. (N = 35)

Percentage of people assessed with at least this level of skills. (N = 24,000)

Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

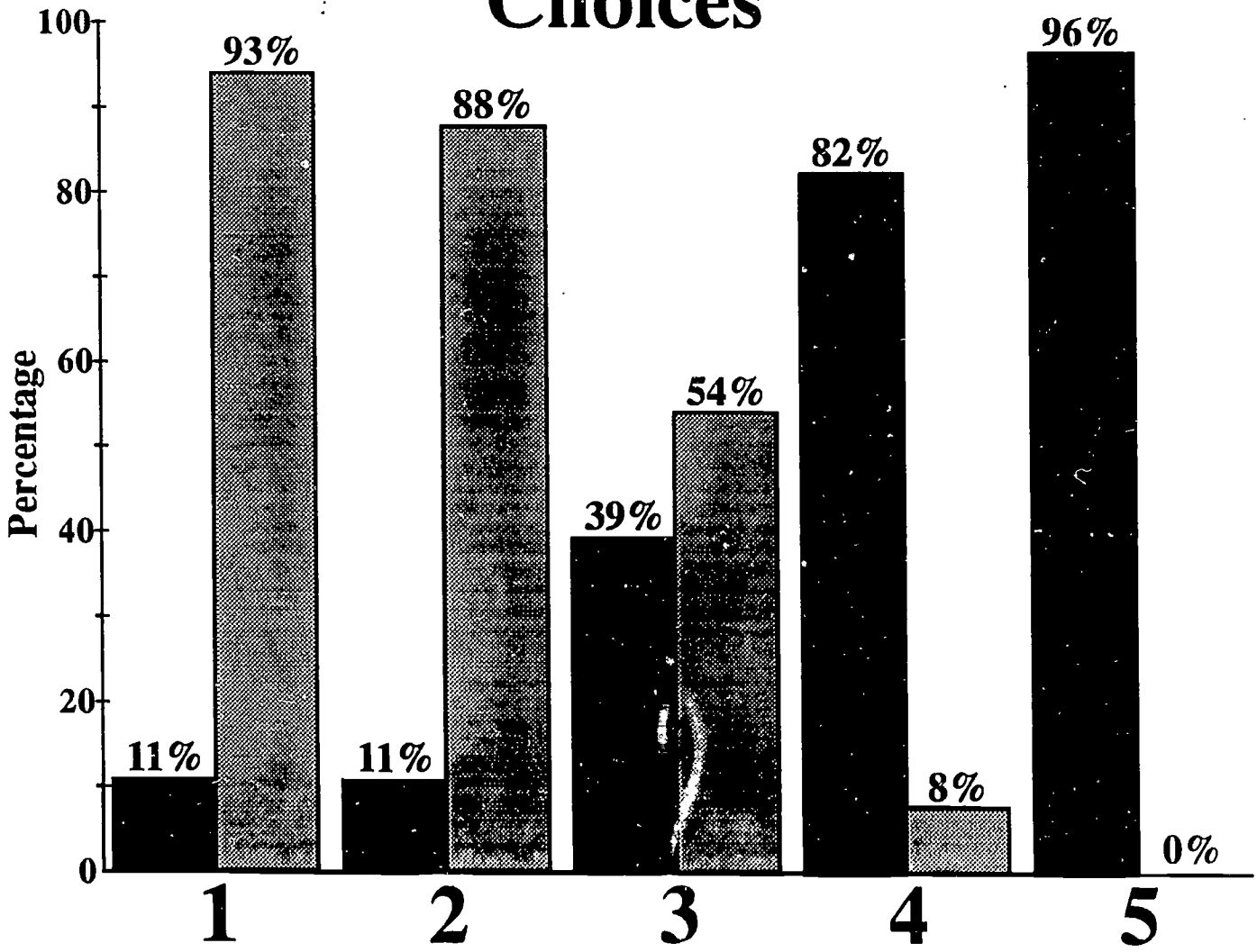
ACT

6/8/94

Figure 14

WORKKEYS™

Writing Choices



Percentage of jobs profiled that can be filled by someone with at least this level of skills. (N = 28)

Percentage of people assessed with at least this level of skills. (N = 24,000)

Note: Interpret data with great caution. Examinees and profiles are not nationally representative.

ACT

6/8/94

Figure 15

WORKKEYS™

Four Steps to Using the Work Keys System

ACT

5/13/94

Figure 16

WORKKEYS™

Models of Use

5/13/94

ACT