Administrator's Guide

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Introduction

This brief guide was written to provide additional information for professionals using the *Employability Skills Inventory (ESI).* The *ESI* helps individuals recognize employability skill deficits they might possess and find ways to overcome and strengthen those deficits. Namely it helps people pinpoint competencies and personal qualities that might help them to secure and maintain employment, advance in their career, and be successful in the workplace. This knowledge can then be used to make more informed career choices and better prepare for the transition itself. The *ESI* is designed to be self-scored and self-interpreted without the use of any other materials, thus providing immediate results for the respondent and/or counselor.

Background

A thorough review of the literature was conducted to support the development of the *Employability Skills Inventory*. This review included a review of the literature related to the basic employability skills, behavioral characteristics, and personal qualities that are required for prospective employees to find employment and succeed in the workplace. The basis for the

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majority of the employability skills literature began with the SCANS Report (SCANS, 1991), a one-year study that culminated in the identification of five competencies and three foundation skills that employers look for in new employees. Subsequent research focused on the viability of these skills sets and looked at ways to teach and train people so that they possess these skills upon entering the workplace. Numerous studies operationalized the results of the SCANS Report and made suggestions for enhancing high school and college curricula to begin teaching and reinforcing these basic employability skills. The following sections will provide an overview of the SCANS Report as well as some research from the studies that followed this landmark study.

Employability Skills

Employability skills have been described in a variety of ways. Some researchers and career counselors have referred to employability skills as those skills that people need on a job that are not technical skills (Bloch, 2002), or as the knowledge or foundation required to find and hold a good job (SCANS, 1991). Shearer and Eadie (1987) spoke of the general and transferable nature of employability skills, stating that they "are not specific job skills, but are skills which cut horizontally across all industries and vertically across all jobs from entry level to chief executive officer" (p. 16). Bloch (2002) added that employability skills are those skills that employers want in their employees in order to have a successful, competitive business. Bloch recommends that just as businesses can get ahead by having employees with these skills, prospective employees need them in order to be successful finding, keeping, and moving up in a job as well.

Cotton (2005, p. 2) conducted a thorough review of the literature related to employability skills and found that the research reports and studies on such skills centered around three primary questions:

1. What skills and traits do employers value most in prospective entry-level employees?
2. Why have employability skills become so important in contemporary workplaces?
3. What educational practices has research shown to be effective in imparting employability skills and traits to students?

Cotton went on to provide some of the results of her review of the literature, as follows:

- Employers want entry-level employees to possess an array of basic, higher-order, and affective employability skills.
- Employers value these generic employability skills *above* specific occupational skills.
- Employers find far too many entry-level job applicants deficient in employability skills, and want the public schools to place more emphasis on developing these skills.
- The demand for basic, higher-order, and affective employability skills reflects profound changes in the workplace.
- Failure to equip people with employability skills has far-reaching consequences, including enhancing the almost impenetrable employability barriers already being faced by socioeconomically disadvantaged people looking for employment; an increase in the crime rate; an increase in unemployment rates; and a decrease in the overall mental health and well being of people.

- Employability skills are best learned when they are included among instructional goals and explicitly taught.

As can be seen, the need for enhanced employability skills is being pushed from two different avenues—from the employers who see the need for a more skilled workforce and from prospective employees who need to find and succeed on a job. The *Employability Skills Inventory* is designed to ensure that people seeking work are well equipped to secure employment and then succeed and progress once they are employed.

Bridging the Employability Gap

As society and the world-of-work evolve, the general skills required of employees also change. Business and industry representatives have expressed considerable dissatisfaction with the general level of preparedness of prospective entry-level employees. Lock (2005) concluded that "the mismatch between available jobs and people's ability to do them will continue" (p. 54), and Herman, Olivo, & Gioia (2003) believed that new workers in the United States lack employability skills at sufficient levels.

Researchers and employers alike have called for educational reform and enhanced job-training programs to address concerns over the gap between the skill requirements for entry-level employment and the skills possessed by entry-level job applicants. One landmark study that is still being used as the benchmark, Secretary's Commission on Achieving Necessary Skills (SCANS, 1991), suggested that more than half of the people leave high school without the knowledge related to finding and maintaining a good job.

The SCANS Report (1991) illustrated the need for enhanced skills in workers by comparing and contrasting how the workplace is changing (Figure 1) and how the school system is changing (Figure 2).

Research has also shown that a college degree does not guarantee that workers will have required basic work skills. Liptak (2009) found that employment skill gaps do not only apply to students transitioning into the workplace from high school or vocational schools. His literature review (c.f., Goleman, 1998; LaPlante, 1991; Shivpuri and Kim, 2004) found that many students finish college or enter the workforce only to find that they are ill prepared for dealing with employability issues in the workplace, and that many college students need additional employability training to be successful.

Figure 1: Characteristics of Today's & Tomorrow's Workplace

Traditional Model	High Performance Model
• Mass production • Centralized control • Fragmentation of tasks • Minimal qualifications accepted • Advancement by seniority • Minimal training available • Authority vested in supervisor • Employees encouraged to specialize	• Flexible production • Decentralized control • Work teams & multi-skilled workers • Basic employability skills needed • Advancement by certified skills • Training available for everyone • Authority delegated to employee • Employees seek broader skill base

Figure 2: Characteristics of Today's & Tomorrow's Schools	
Schools of Today	**Schools of Tomorrow**
• Focus on the development of basic skills • Testing is separate from teaching • Recitation and recall from short-term memory • Students work as individuals • Work is hierarchically sequenced from basics to higher-order work • Supervision by administration • Only some students learn to think	• Focus is on development of thinking skills • Assessment integral to teaching • Students actively construct knowledge for themselves • Cooperative problem-solving • Skills learned in the context of real problems • Learner-centered, teacher-directed • All students learn to think

Key Employability Skill Deficits

Most of the skills required of—and found lacking in—new employees are not job-specific, but are the kinds of skills required across most occupations in all industries. According to some of the most recent research (c.f., NACE, 2009), employers believe that the greatest skill deficiency occurs in the acquisition and use of new technologies and the development of effective communication skills. As large numbers of employees begin to retire, employers are reporting positions are staying vacant for months because of an inability to find people to fill them. Van Horn (2002) said that of the companies that employ 100 people or more, 57 percent have had difficulty in hiring workers with the required skills.

The effects of employability skill deficits are felt just as strongly by the prospective employees. Without the required skill sets, their occupational choices are limited. Judy and D'Amico (1997) warned that people who lack effective employability skills will have to settle for poorly paid retail and service jobs; those same people will see the purchasing power of their wages erode and will face more likely job loss from automation and other technological advances.

Many researchers and theorists have predicted that there will be a new way of using employment skills in the future. Lock (2002) suggested that commitment, accountability, communication, knowledge of systems, adaptability, and use of technology will be the new skill base of future workers. Workers will hire out their skills to organizations on a contractual basis, use skills on a series of projects, and transfer skills from one industry to another. Because jobs change so rapidly that skills used in them can become outdated very quickly, workers will need basic skills that can be applied to a wide variety of work tasks and environments, giving them a basis upon which to build job-specific and technical skills through training and continuing education.

Amundson (2005) reported that globally, the phenomenon of employment skills shortages is an issue that is receiving increasing attention and that some of the reasons for this attention include demographic shifts, technological changes, and the expansion of a more global marketplace. Ishikawa, Mizuno, and Amundson (2009) concluded that "given this scenario, it is obvious that societies need to ensure that new entrants into the labor force are fully developing and using their skills and abilities" (p. 62).

The SCANS Report

The Secretary of Labor and Members of the Secretary's Commission on Achieving Necessary Skills (SCANS, 1991) completed a landmark study that examined the changes in the world of work and the implications of those changes for learning. The Commission was directed to advise the Secretary about the level of skills required to enter employment and was asked to

- Define the skills needed for employment;
- Propose acceptable levels of proficiency;
- Suggest effective ways to assess proficiency; and
- Develop a dissemination strategy for the nation's schools, businesses, and homes.

The Commission spent one year talking with business owners, public employers, union officials, and workers to learn everything they could about how prepared people are for entering the workforce after school. They drew three major conclusions from their study:

- All students must develop a new set of competencies and foundation skills if they are to enjoy a productive, full, and satisfying life.
- The qualities of high performance that characterize our most competitive companies must become the standard for the vast majority of our companies, large and small, local and global.
- The nation's schools must be transformed into high-performance organizations in their own right.

To accomplish these goals, the report identified five competencies and a three-part foundation of skills and personal qualities that are needed for solid job performance:

- **Competencies:** An effective worker can productively use the following:
    - *Resources:* Makes the most of time**,** money**,** materials, facilities**,** and human resources.
    - *Interpersonal Skills:* Works as a member of a team**,** teaches others new skills**,** services clients/customers, leads well, negotiates**,** and works well with people from culturally diverse backgrounds.
    - *Information:* Acquires and evaluates information**,** organizes and maintains information and files**,** interprets and communicates information**,** and uses computers to process information.
    - *Systems:* Understands social and organizational systems**,** monitors and corrects performance, and improves or designs systems.
    - *Technology:* Selects technology and equipment, applies technology to specific tasks, and maintains and troubleshoots equipment and technology.
- **Foundation Skills:** An effective worker has the following skills:
    - *Basic Skills:* Reads, writes, performs arithmetic and mathematical operations, listens, and speaks well.

- *Thinking Skills:* Thinks creatively, makes decisions, solves problems, visualizes things in the mind's eye, knows how to learn, and reasons well.
- *Personal Qualities:* Responsibility, self-esteem, sociability, self-management, integrity, and honesty.

The Commission concluded that "these eight requirements are essential for all students, both those going directly to work and those planning further education. Thus, the competencies and the foundation should be taught and understood in an integrated fashion that reflects the workplace contexts in which they are applied" (p. viii).

The findings of the Commission are still relevant today. Many subsequent studies have reinforced the viability of the eight skill areas identified in the original SCANS Report (c.f., North Central Regional Educational Laboratory, 2003; Robinson, 2000; U.S. Department of Labor, 1999). Based on these continuing reviews of the literature and subsequent studies to further document the importance of employability skills, there appears to be a lack of assessment instruments that can adequately measure the employability skills of prospective employees.

Need for the *Employability Skills Inventory*

Given the changes occurring in the workplace, there is a tremendous need for an assessment instrument that could provide prospective employees with greater knowledge of their employability strengths and weaknesses.

The SCANS report itself called for the development of an assessment instrument that could be used by schools, colleges, and human resource departments to ensure that prospective employees had the requisite employability skills needed to be successful on a job. The commission concluded that there was a need to

- Examine how to create an assessment system that helped people understand what they have to learn and verified that they have mastered the competencies so that employers will know they have the employability skills to be effective workers.
- Consider the implications of the SCANS findings for curriculum development, school organization, teacher training, and integration of employability skills into classroom education and training programs.

The *ESI* was developed as a reliable and valid way to measure the level of proficiency for the SCANS competencies and basic skills. It is designed so that people can explore their readiness to be successfully employed in the workplace. The *ESI* also enhances awareness of specific employability skills and provides suggestions for enhancing job employability even more.

More specifically, by using the information provided by *ESI*, respondents can

- Learn more about their strengths and weaknesses as they enter the workforce.
- Identify ways to enhance their weaknesses and be better prepared to be successful employees.
- Experience enhanced self-esteem and feel better prepared to be competitive in the job market.
- Better identify training programs and educational opportunities for improving their skills.

The *ESI* is intended for use in a variety of settings including the following:

- College, university, and community college career counseling centers that provide career counseling, coaching, and job search assistance for students.
- High school guidance counseling centers that provide career counseling, coaching, and job search assistance for students graduating from high school and entering the work force.
- Vocational and technical career counseling centers that provide career counseling, coaching, and job search assistance for students graduating with a technical degree or from a certification program.
- One-Stop and other career and employment counseling programs that work with students in training programs who will be transitioning to the workplace.
- Vocational rehabilitation agencies that provide career counseling and job search assistance to their clients.
- Correctional programs that provide pre-release counseling for offenders entering the workforce.

Administration and Interpretation

The *ESI* is simple to take and can be easily scored and interpreted. Each assessment contains 80 statements that are related to the employability skills that people need as they transition from school to work. Each item asks test takers to rate how well the statement describes them on a three-point scale ranging from" Very True" to "Not True." The *ESI* also includes scoring directions, a scoring profile, and an interpretive guide that helps respondents to connect their results to strategies for further developing their employability skills. In addition, a space is provided for respondents to develop an action plan for strengthening employability weaknesses.

The *ESI* can be administered to individuals or to groups. It is written for individuals at or above the 8th grade level. Because none of the items are gender-specific, the *ESI* is appropriate for a variety of audiences and populations.

Administering the *ESI*

The *ESI* can be self-administered and the inventory booklets are consumable. A pencil or pen is the only other item necessary for administering, scoring, and interpreting the inventory. The first page of the inventory contains spaces for normative data including name, date, gender, and age. Instruct each respondent to fill in the necessary information. Then read the description on the first page while all respondents follow along. Test administrators should ensure that each respondent clearly understands all of the instructions and the response format. Respondents should be instructed to mark all of their responses directly on the inventory booklet. The *ESI* requires approximately 20–25 minutes to complete.

The *ESI* uses a series of steps to guide respondents. In Step 1, respondents mark their answers for each of the 80 statements. Respondents are asked to read each statement and then circle the response that best represents how well the statement describes them based on a three-point Likert scale.

In Step 2, respondents add their scores for each color-coded scale. Each of the eight scales is made up of 10 items that represent employability competencies and personal qualities as identified in the SCANS Report (SCANS, 1991). Step 3 provides a chart for respondents to profile their scores from 10 to 30. Respondents place an X on the profile for their scores on each of the eight scales. This profile helps respondents to compare their scores. Scoring ranges are provided so that respondents can identify those employability skills that require the most attention.

Step 4 helps respondents to interpret their scores. It provides descriptions of the eight scales, as well as tips, exercises, and strategies to help respondents explore and improve their employability skills. Respondents should concentrate on those scales on which they scored in the low or average ranges, though if there is time, they should be encouraged to review the information for all eight scales. Step 5 encourages respondents to develop an action plan and apply what they have learned to assist them in further developing their employability skills.

Understanding and Interpreting *ESI* Scores

The scales for the *Employability Skills Inventory* were structured around the eight skill and competency areas identified on the SCANS Report (SCANS, 1991). For more information about the correlations between the SCANS skill and competency areas and the scales of the *ESI*, please refer to Figures 3 and 4 in the next section. Following is a description of the eight scales identified for inclusion on the *ESI*:

Scale 1: Basic Skills

Basic skills form the foundation for success on a job. People who score high on this scale tend to be skilled in reading, writing, listening, speaking, and mathematics.

Scale 2: Thinking Skills

People who score high on this scale tend to be able to think creatively, make effective decisions, solve problems logically and efficiently, visualize how things work, apply sound reasoning skills, and use effective learning techniques to acquire new knowledge and skills.

Scale 3: Personal Qualities

People who score high on this scale have the personal qualities needed to be successful in the workplace. They take responsibility for their actions and persevere to reach their goals. They are friendly, open, and adaptable in working with others. They know what they are capable of and set and monitor progress toward goals. They are also honest and act with integrity.

Scale 4: Resource Management

People who score high on this scale are skilled at identifying, organizing, planning, and allocating resources, whether it's time, money, manpower, or materials. They know how to prioritize, keep to a schedule, and meet deadlines. They can set budgets, make financial forecasts, and keep accurate financial records. They are able to adequately allocate and use materials and space, and they understand how to use and distribute work based on the skills of others.

Scale 5: Information Skills

People who score high on this scale are skilled at acquiring and evaluating various types of information. They are able to process, organize, and maintain information using computers and other technology. They are skilled at gathering information from a variety of sources and then interpreting it and communicating it to others.

Scale 6: Interpersonal Skills

People who score high on this scale work well with others. They enjoy participating as members of a team and working with people from diverse backgrounds. They treat customers and clients with respect and provide excellent customer service. They are skilled at helping others resolve conflicts through compromise and are effective communicators. They have leadership skills and enjoy persuading others and taking responsibility.

Scale 7: Systems Management

People who score high on this scale understand how social, organizational, and technological systems work and they can operate effectively within those systems. They can identify trends and predict their impact. They can also anticipate problems and make allowances, suggest modifications to existing systems, and develop new ways of doing things. They know the roles they play in an organization and how their work affects the work of others.

Scale 8: Technology Use

People who score high on this scale are skilled in working with computers and other technology. They can choose the right tools, equipment, hardware, and software for the job, and they understand how to apply technology to tasks to get the best results. They can set up and operate machines and equipment and can effectively maintain and troubleshoot problems with technology.

The *ESI* yields content-referenced scores in the form of raw scores. A raw score, in this case, is the total of the numbers circled for each of the 10 self-report employability skill statements for the eight scales. The performance of individual respondents or groups of respondents can only be evaluated in terms of the mean scores on each of the scales. For each of the scales on the *ESI,*

- Scores from **10 to 16** on any of the above scales are **LOW** and suggest that respondents need to further develop these employability skills to be successful.
- Scores from **17 to 23** on any of the above scales are **AVERAGE** and indicate that respondents have developed many of these employability skills, but still need to develop them further.
- Scores from **24 to 30** on any of the above scale are **HIGH** and indicate that respondents have developed most of the employability skills they need to be successful.

Respondents generally have one or more areas in which they score in the low or low-average categories. The respondents should concentrate on exploring their strengths and weaknesses within these areas first. However, they should also look for ways to use their scores to enhance their chances of employment success. This is best accomplished by having respondents

consider all of the activities in Step 4. This will help them to think about their employability skill strengths and weaknesses, learn more-effective strategies for developing weaker employability skills, and be better prepared to exhibit their employability skills in the workplace.

Keep in mind that it is not necessary to score high on every scale on the *ESI,* nor do high scores on all eight scales ensure successful employment. This assessment is designed to help people entering the workplace explore their employability skill strengths and weaknesses. However, every person's employability is different, and each employer might require different skills or skill levels of varying degrees. Alternatively, some respondents might score in the average or low ranges for most or all of the eight scales. If this is the case, these people might need to do a lot of work to prepare to develop more-effective employability skills.

Illustrative Case

Faith is a 45-year-old former teacher who is interested in getting a job as a manager in a department store. She has a bachelor's degree in education and was an elementary teacher for about 10 years. She took three years off to be a homemaker. Faith has decided to get back into the workforce, but not as a teacher. She said that she is a good organizer and that she thinks she would be a great manager in a retail store, though she is worried about transitioning back into the workforce. Before she begins applying for jobs, she is interested in identifying her employability strengths and weaknesses. Her scores on the *ESI* are as follows:

Basic Skills: 25
Thinking Skills: 18
Personal Qualities: 23
Resource Management: 25
Information Skills: 20
Interpersonal Skills: 23
Systems Management: 17
Technology Use: 15

As can be seen, Faith scored highest on the Basic Skills (25) and Resource Management scales (25). She says that she has always been really good at the three *R*s—reading, writing, and arithmetic. She was a little surprised that she did as well on the resources scale. She thought she might be good at managing money and resources, but seeing her high score gave her the confidence to pursue her interest in being a store manager.

Faith was a little concerned about her low-average score on the Thinking Skills scale (18). She said that she was good at making decisions but that she had some trouble thinking creatively. She also said she would like to learn more-effective ways of solving problems. Faith was also concerned about her low scores on the Systems Management (17) and Technology Use (15) scales. She said that as a teacher she did a little bit of systems thinking, but that she focused mostly on what was happening in her classroom. The counselor suggested this lack of systems thinking might have enhanced her burned-out feelings because she was probably unable to see the big picture and how all of the educational "parts" fit together. The counselor encouraged her to identify some trends occurring in retail sales as a way of enhancing her systems thinking. He also recommended that Faith learn more about computers and maybe even take a course at the local community college as a way to further develop her technology skills.

Research and Development

This section outlines the stages involved in the development of the *ESI*. It includes guidelines for development, item construction, item selection, item standardization, and norm development and testing.

Guidelines for Development

The *ESI* was developed to fill the need for a quick and reliable instrument to help people explore their strengths and weaknesses related to the employability skills required of most jobs. It also provides counselors and teachers with information that they can use to help their clients and students explore ways to ensure they have the requisite skills to be successful in the workplace. The *ESI* was developed to meet the following guidelines:

1. **The instrument should measure a wide range of workplace employability skills.** To help people identify the strength of their employability skills and work to overcome weaknesses, eight scales were developed that were representative of the five workplace competencies and three personal quality characteristics identified in the SCANS Report.
2. **The instrument should be easy to administer, score, and interpret.** The *ESI* uses a three-point Likert question-answer format that allows respondents to quickly determine their employability skill strengths and weaknesses. The consumable format makes it easy to complete, score, and interpret the assessment and helps people explore their strengths and weaknesses related to skills that employers have identified as critical for employees to possess.
3. **The instrument should apply to both men and women.** Norms for the *ESI* have been developed for both men and women.
4. **The instrument should contain items that are applicable to people of all ages.** Norms developed for the *ESI* show an age range from 21 to 58.

Administrators should keep in mind that *Employability Skills Inventory* results are based on self-report data provided by the person completing the assessment. It is not designed to be a quantitative assessment of actual employment skills. The *ESI* is a valid and reliable measure of a prospective employee's perceived strengths and weaknesses related to skills identified on the SCANS Report. The assessment should be used as a means to identify skill strengths and skills that need to be further developed for the test taker to be effective in the workplace.

Scale Development

Scale development for the *ESI* was based primarily on a review of the literature related to employability skills and in particular the SCANS Report. This research study surveyed employers from a variety of industries and attempted to pinpoint the types of skills that prospective employees need to be successful in the workplace. Figures 3 and 4 show the correlation between the eight skill sets identified in the SCANS Report and the scales on the *ESI*.

Figure 3: Correlation Between SCANS Foundational Skills and *ESI* Scales	
SCANS Foundational Skills	***ESI* Scales**
Basic Skills	**Basic Skills**
Thinking Skills	**Thinking Skills**
Personal Qualities	**Personal Qualities**

Figure 4: Correlation Between SCANS Competencies and *ESI* Scales	
SCANS Competencies	***ESI* Scales**
Resources	**Resource Management**
Interpersonal	**Interpersonal Skills**
Information	**Information Skills**
Systems	**Systems Management**
Technology	**Technology Use**

Item Selection

A large pool of items that were representative of the eight major scales on the *ESI* was developed and later revised using the research studies and reviews of the literature cited above. The items used for the *ESI* were designed based on many of the research questions asked in the SCANS Report. In addition, the items selected for inclusion on the *ESI* were representative of both the basic competencies and personal qualities that make up employability skills as defined by that same report. A pool of items was identified and then subjected to a split-half statistical study (see Table 1) to eliminate items that did not cluster well. The subjects used for this study were college students and unemployed adults. This analysis enabled the elimination of items that did not correlate well with the other items on the scale.

In developing items for *ESI*, the author used language that is currently being used in the literature related to employability skills and the language included in the SCANS Report. After the items were developed, they were reviewed and edited for clarity, style, and appropriateness for identifying employability skills that are critical for people to possess in order to be successful in the workplace. Items were additionally screened to eliminate any reference to sex, race, culture, or ethnic origin.

Item Standardization

The *ESI* was designed to measure a person's skills that are required to be successful in the workplace. The author utilized the SCANS Report and subsequent studies related to the SCANS Report in developing items to be tested. Unemployed workers were then administered the first draft of the *ESI* to gather data concerning the statistical characteristics on each of the items from the eight scales (and eight categories on the SCANS Report). From this research, a final pool of 12 items was chosen that best represented each of the eight scales on the *ESI*.

This initial research yielded information about the appropriateness of items for each of the *ESI* scales; reactions of respondents concerning the inventory format and content; and reactions of respondents concerning the ease of administration, scoring, and profiling of the assessment. Experts in the field of employment counseling were used to eliminate items that were too similar to one another. The data collected was then subjected to split-half correlation coefficients to identify the items that best represented the eight scales on the *ESI*. The items accepted for the final form of the *ESI* were again reviewed for content, clarity, and style. Careful examination was conducted to eliminate any possible gender or race bias.

Reliability

Reliability is often defined as the consistency with which a test measures what it purports to measure. Evidence of the reliability of a test may be presented in terms of reliability coefficients and test-retest correlations. Tables 1 and 2 present these types of reliability information. As can be seen in Table 1, the *ESI* showed very strong internal consistency validity with split-half correlations ranging from .80 (Thinking Skills and the Systems Management) to .93 (Information Skills). All split-half correlation scores for the eight scales were significant at the 0.01 significance level.

Approximately one month after the original testing, 50 people in the sample population were retested (see Table 2). Test-retest correlations for the *ESI* ranged from .81 (Information Skills) to .92 (Systems Management). All of these correlations were also significant at the 0.01 level.

Validity

Validity is often defined as the extent to which a test measures what it purports to measure. Evidence of validity for the *ESI* is presented in the form of means and standard deviations and construct validity. Table 3 shows the scale means and standard deviations for men and women who completed the *ESI*.

Note that women scored highest on the Interpersonal Skills (M = 24.62) scale and then the Personal Qualities (M = 24.59) scale. Their scores on these two scales were significantly higher than the men who completed the *ESI*. This suggests that women tend to more fully develop the skills needed to work well with others, treat customers and co-workers with respect, solve conflicts effectively, and motivate people to do their best. They also have the personal qualities to be successful and tend to be friendly, open, and adaptable in working with others. Women tended to score lowest on the Thinking Skills (M = 18.11) scale and the Technology Use (M = 19.24) scales. This suggests that women need the most assistance in developing a thoughtful and logical problem-solving and decision-making process for the workplace and learning new and creative ways to think about problems in the workplace. They might also need some assistance in developing effective skills in working with computers and technology. These scores partly reflect occupational skill sets required of women in traditionally female-dominated jobs.

Men scored highest on the Basic Skills (M = 21.91) scale and the Information Skills (M = 21.01) scale. This suggests that men tend to have the foundation skills for success, including reading, writing, listening, speaking, and mathematics. They also are adept at finding, interpreting, and evaluating various types of information. They are able to organize and maintain information with the use of computers and other technology. Men scored lowest on the Systems Management (M = 17.69) scale and the Personal Qualities (M = 19.19) scale. Thus, they might have a hard

time understanding the complex relationships that occur in the workplace and are often unable to understand and operate within social, organizational, and technological systems. In addition, men might need assistance in developing the responsibility, positive attitudes, reliability, and dependability required in the workplace.

Construct validity is often determined by comparing an assessment with an established assessment that supposedly measures the same construct. To determine its construct validity, the *ESI* was correlated with the *Transferable Skills Scale (TSS)* (Liptak & Shatkin, 2007). As can be seen in Table 4, similar scales on both assessments showed high correlation scores. For example, the Numerical scale on the *TSS* and the Basic Skills scale on the *ESI* (.982) and the Numerical scale on the *TSS* and the Technology Use scale on the *ESI* (.982) were highly correlated. Similarly, the Interpersonal scale on the *TSS* and the Interpersonal Skills scale on the *ESI* (.854) were also highly correlated. Based on the number of correlations between similar scales at both the 0.05 and 0.01 levels, it was concluded that the *ESI* has appropriate construct validity.

References

Amundson, N. (2005). The potential impact of global changes in work for career theory and practice. *International Journal for Educational and Vocational Guidance*, 5, 1–9.

Bloch, D. (2002). *How to get your first job and keep it*. New York, NY: VGM Career Books.

Cotton, K. (2005). Developing employability skills. http://www.nwrel.org/scpd/sirs/8/c015.html.

Ishikawa, Y., Mizuno, M., & Amundson, N.E. (2009). Career awareness of new graduates and recruiting activities by companies in Japan. *Journal of Employment Counseling*, 46, 2, 62–72.

Judy, R, & D'Amico, C. (1997). *Workforce 2020: The boom and bust years of America before and after everything changed*. Indianapolis, IN: Hudson Institute.

Liptak, J.J. (2009). *College-to-Career Transition Inventory*. Indianapolis, IN: JIST Publishing.

Liptak, J.J. (2008). *Career Quizzes*. Indianapolis, IN: JIST Publishing.

Liptak, J.J., & Shatkin, L. (2007). *Transferable Skills Scale*. Indianapolis, IN: JIST Publishing.

NACE (2009). Looking ahead: Highlights from the future trends survey. *NACE Journal*, September 2009, 22–28.

North Central Regional Educational Laboratory (2003). *enGuage 21st Century Skills*. Los Angeles, CA: Metiri.

Robinson, J.P. (2000). What are employability skills? *The Workplace*, 1 (3), 1–3.

U.S. Department of Labor (1999). *Futurework: Trends and challenges for work in the 21st century*. Washington, DC: Department of Labor Statistics.

U.S. Department of Labor (1991). *What work requires of schools: A SCANS report for America 2000*. Washington, DC: Department of Labor Statistics.

Van Horn, C. (2002). *Heldrich work trends study*. New Brunswick, NJ: Center for Workforce Development.

About the Author

John Liptak, Ed.D., is one of the leading developers of quantitative and qualitative assessments in the country. He is the Associate Director of the Experiential Learning and Career Development office at Radford University in Radford, Virginia. He provides career assessment and career counseling services for students and administers and interprets a variety of career assessments. Dr. Liptak focuses on helping students develop their careers by becoming engaged in a variety of learning, leisure, and work experiences. In addition to the *ESI*, Dr. Liptak has created the following assessments for JIST Publishing*: College-to-Career Transition Inventory, Entrepreneurial Readiness Inventory, Work Smarts, Transferable Skills Scale, Career Exploration Inventory, Transition-to-Work Inventory*, *Job Search Knowledge Scale*, *Job Survival and Success Scale, Barriers to Employment Success Inventory, Job Search Attitude Inventory*, *Interview Style Inventory, Career Planning Scale,* and *College Survival and Success Scale.* He is also the author of *Career Quizzes*.

Table 1: Internal Consistency (Split-Half Correlations) *

Scale	Correlation Coefficient
Basic Skills	.85**
Thinking Skills	.80**
Personal Qualities	.91**
Resource Management	.82**
Information Skills	.93**
Interpersonal Skills	.78**
Systems Management	.80**
Technology Use	.81**

* N = 20
** Correlation significant at the 0.01 level

Table 2: Stability (Test-Retest Correlation) * +

Scale	Correlation Coefficient
Basic Skills	.88**
Thinking Skills	.89**
Personal Qualities	.91**
Resource Management	.91**
Information Skills	.81**
Interpersonal Skills	.86**
Systems Management	.92**
Technology Use	.85**

* N = 50 adults
+ 1 month after original testing
** Correlation significant at the 0.01 level

Table 3: *ESI* Means and Standard Deviations for Adults						
Scale	**Total (N = 278)**		**Male (N = 137)**		**Female (N = 141)**	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Basic Skills	21.54	3.6	21.91	3.9	21.18	3.3
Thinking Skills	19.08	3.9	20.07	3.6	18.11	4.0
Personal Qualities	21.93	5.2	19.19	5.0	24.59	3.8
Resource Management	21.60	4.0	20.41	3.5	22.75	4.1
Information Skills	21.65	3.8	21.01	3.6	22.27	3.8
Interpersonal Skills	22.59	4.1	20.51	3.9	24.62	3.2
Systems Management	20.17	4.7	17.69	4.4	22.57	3.5
Technology Use	18.82	4.5	20.42	3.8	19.24	4.9

Table 4: *ESI* Correlations with *Transferable Skills Scale* (*TSS*) (N = 18)								
***ESI* Scales**	***TSS* Scales**							
	Analytical	**Numerical**	**Interpersonal**	**Organizational**	**Physical**	**Informational**	**Communicative**	**Creative**
Basic Skills	.500*	.982**	.000	–.655	–.500	.500*	–.327	.045
Thinking Skills	–1.00	–.327	.866**	.982**	.000	.500*	–.655	–.756
Personal Qualities	.000	–.945	–.500	.189	.000	–.866	.756**	–.655
Resource Management	–.866	.189	–1.00	.756**	–.866	.866**	–.945	–.327
Information Skills	.569*	.963**	–.082	–.715	–.569	.427	–.249	.969**
Interpersonal Skills	–.204	.267	.854**	.134	.204	.408	–.401	.077
Systems Management	.817**	.812**	–.419	–.911	–.817	.091	.099	.995**
Technology Use	.500	.982**	.000	–.655	–.500	.500*	–.327	.945**

* Correlations were significant at the 0.05 level
**Correlations were significant at the 0.01 level