

*Career Development, Employment,  
and Disability in Rehabilitation*  
From Theory to Practice

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*Editor*

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## Chapter 15: Computer-Based Vocational Guidance Systems and Job Matching

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**After reading this chapter, you should be able to:**

1. Understand the current occupational systems, purpose, and foundation.
2. Understand transferable skills analysis.
3. Understand the importance of search strategy.
4. Understand vocational guidance/job matching.
5. Understand computer-based approaches.

### CURRENT OCCUPATIONAL SYSTEMS, PURPOSE, AND FOUNDATION

A detailed list of occupational and labor market information resources are contained in Chapter 14 on labor market survey. There are currently six primary government systems of occupational classification used to classify civilian work in the United States. This chapter discusses the systems most pertinent to vocational guidance and transferable skills analysis. Each classification system is optimized for specific purposes of interest to the sponsoring government agency. To improve cross-references from one system to another, the Federal Office of Management and Budget requires that each system directly relate to the *Standard Occupational Classification* (U.S. Department of Labor, 2010) in some way. The level of reported occupational detail varies with each system.

#### *Current Occupational Classification Systems*

**OOH: Occupational Outlook Handbook (2012–2013)**

Published every other year by the Bureau of Labor Statistics (BLS) for purposes of career exploration, the current version of this exceedingly popular publication is available at

[www.bls.gov/ooh](http://www.bls.gov/ooh) while older versions may be found in most public libraries. Written in narrative format with information presented in eight different content areas, the OOH defines 341 occupations in detail.

**Census: Census Bureau Occupational Codes (2010)**

Revised every 10 years, this system is used to classify household survey–reported 30,000+ job titles in the decennial census, monthly Current Population Survey (CPS), and the American Community Survey (ACS). The census job titles map to 535 Occupational groups without detail. Available at [www.census.gov/cps](http://www.census.gov/cps).

**OES: Occupational Employment Survey (2011)**

Revised every other year by the BLS for purposes of annual employer-based data collection about employment numbers, wages, industry, and projected long-term outlook for employment. There are no occupational details for the 818 civilian codes. Available at [www.bls.gov/oes](http://www.bls.gov/oes).

**SOC: *Standard Occupational Classification* (2010)**

Revised every 10 years by the BLS for purposes of a common federal system. All other classification systems must cross-reference to the SOC. Of its 840 unique codes, 820 relate to civilian occupations. There is no occupational detail beyond a group description for these codes. Available at [www.bls.gov/soc](http://www.bls.gov/soc).

**O\*NET: The Occupational Information Network (2011)**

Revised annually by the DOL/Employment and Training Administration (ETA) for career exploration, human resources (HR), and industry career ladders/lattices, the 974 unique occupations include a great deal of occupational detail following a standardized content model (O\*NET Consortium, 2012) for worker-oriented characteristics, requirements, and experience. It also include job-oriented details about tasks, tools and technology, worker activities, and workforce characteristics. Data are gathered from job incumbents with Skills and Abilities ratings performed by occupational analysts, who performed paper reviews of jobs rather than on-site job analyses. The DOL revises only 100 occupations each year. There are some good new variables in the O\*NET for physical factors such as sitting, standing, and walking. Cross-functional skill sets are grouped into basic, complex problem solving, resource management, social, systems, and technical dimensions. As of 2012, Tools and Technologies (T2) elaborate 45,000+ distinct machines, equipment, tools, and software programs linked to 647 “High Demand” occupations. Available at [www.onetonline.org](http://www.onetonline.org).

**DOT: *Dictionary of Occupational Titles* (1991, 1998)**

The last major revision was published in 1991. An additional 20 occupations were released in 1998 prior to release of O\*NET 98 (U.S. Department of Labor, 1991/1998). This “Grand Daddy” of occupational references includes detail about 12,761 detailed occupations. It is the only occupational classification system rated by on-site field job analysts to capture observed ratings of strength, physical demands, environmental conditions,

general educational development (reasoning-math-language), specific vocational preparation (SVP, or time to proficiency), aptitudes, and temperaments. Additionally, the DOT includes some unique code systems that contribute to cross-group transferability analysis called work fields (WF) and materials, products, subject matter, and services (MPSMS) codes. Each DOT code has at least one (of three maximum) WF and MPSMS codes assigned.

**Purpose.** Of these six classification systems, only three contain details useful for career exploration and job matching: OOH, O\*NET, and the DOT. The other three systems (census, OES, and SOC) serve only as a cross walk to useful econometric labor market information (see the labor market survey chapter for terminology about the various properties of occupational and labor market information).

For career exploration purposes, OOH and O\*NET information are easy-to-read, web-accessible resources. Both sources are designed to serve the primary needs of the general population: neither was designed to serve the needs of the Social Security Administration (SSA) or social insurance programs (e.g., workers' compensation, long-term disability) nor for adjudication of disability claims. Yet, both sources contain some interesting new dimensions about occupations that are not captured well in the DOT (see O\*NET Content Model, 2012).

Despite critique of the DOT and its data collection efforts (Miller, Treiman, Cain, & Roos, 1980; Traver, 2011), for persons whose lives have been impacted by disability, the traditional ergonomic resource has been the DOT. Over the decades, SSA cultivated a cooperative relationship with the DOL to obtain more specific information helpful to the adjudication process. This same kind of information is also quite helpful in the process of rehabilitation. Many test instruments, work samples, and inventories are developed with a straightforward relationship to the DOT. For more historical context, see [www.skilltran.com/support/DOT\\_History.htm](http://www.skilltran.com/support/DOT_History.htm).

**Foundation.** SSA does not get enough credit for causing the DOT to morph and mature into the size, breadth, and depth which it achieves. The DOT is recognized in the Code of Federal Regulations (CFR) as an authoritative reference for reliable job information (20 CFR 404.1566(d) and Social Security Rulings (SSR 00-4p). Deviation from the use of this document requires special handling and declaration by a Vocational Expert and the Administrative Law Judge in Social Security disability adjudication. No other existing government document covers the range of occupations at the level of detail needed for claims management or rehabilitation as the DOT. Work field and MPSMS codes in the DOT squarely fit the SSA transferability definition in the CFR as it applies to disability.

The Social Security model serves as the standard (or benchmark) frame of reference for the definition of transferability and how the process can be applied to most disability-related cases in public and private disability social insurance systems. There are several reasons for selecting the Social Security program as a major referent.

1. The Social Security program has a rich and long history of addressing disability issues, including the consideration of whether a person can work with or following injury.
2. The number of people who have been "processed" through the Social Security Disability Insurance (SSDI) program exceeds three million annual claims. This very substantial process for determining disability and the capacity of a person to be able to work has been implemented for more than 40 years.
3. The (CFR) (Part 404, in particular) defines in great detail the issues related to disability and the disability-determination process. The language is exact and provides a well-defined guideline in arriving at the outcome of the process. The SSA program is

generally considered the source of many rehabilitation (or return-to-work) programs, and has served as a benchmark from which many other related state and federal programs have been developed.

4. Many other public sector organizations use the DOT, including the Department of Veterans Affairs, K-12 Individuals with Disabilities Education Act, Federal Office of Workers' Compensation Programs, Immigration, and state/federal vocational rehabilitation programs.
5. Many private sector industry programs have embraced the DOT for its purposes in claims management and rehabilitation efforts, such as worker compensation, long-term disability (LTD), railroad retirement board, life insurance, longshore act, no-fault auto insurance, pension funds, family law (marital dissolution/child custody), and tort (discrimination, product liability, malpractice, student loan default employability, wrongful death).

### *Transferable Skills Analysis*

There are a variety of definitions of skills in different occupational sources and professions. In 2011, the DOL developed a transferable analysis system using O\*NET called [myskillsmyfuture.com](http://myskillsmyfuture.com). But, the National Academy of Sciences review of the O\*NET identified that the O\*NET contained four different skill definitions, which caused confusion to the user. The SSA has rejected use of O\*NET in its present form for transferability analysis (Content Model and Classifications Recommendations, 2009; Truthan & Karman, 2003).

This chapter is specific to how transferable skills analysis (TSA) has traditionally been used in rehabilitation, a method that uses the DOT, not O\*NET. Transferable skills analysis, or transferability, is the process by which similar, related, or new jobs/occupations are identified for a person following injury or disability. These jobs are consistent and compatible with previous work experience and fall within the range of residual post-injury functioning of the claimant.

Transferable skills analysis is a procedure utilized by rehabilitation and job specialists for decades. Perhaps the most prominent user has been professionals related to the SSDI (disability insurance) of the Social Security program (Blackwell, Field, & Field, 1992; Field & Weed, 1988; Hannings, Ash, & Sinick, 1972). The return-to-work movement of the 1980s (mostly through state legislatively mandated rehabilitation programs) also utilized various notions of transferability for the injured worker. A natural extension of these legal mandates was the utilization of TSA procedures in the determination of reduced and/or lost employment and the diminution of wages in cases involving personal injury. In these authors' opinion, the main referent and foundation of the transferability process has always been and will continue to be the disability determination program of the SSA.

The TSA process has its roots in the trait factor theory of career development (see Table 17.1) and the methods of sentence analysis used by the Department of Labor to build the job descriptions in the DOT following the criteria of the *Handbook for Analyzing Jobs* (U.S. Department of Labor, 1972; Revised 1991). This technique describes the job-worker situation in a very standardized format. The format includes the worker function (what the worker does), the technologies, machines, tools, equipment and work aids used (how and why the worker does it), and the materials used, products produced, and subject matter or services provided (what the worker works on or works with). Worker technologies are reflected in WF codes, particularly when combined with the SVP needed to properly perform the activities of the WF. Materials, products, subject matter, and services are embodied in MPSMS codes.

The SSA definition is a national standard because it is defined in the CFR (20 CFR 404.1568(d)). The SSA slightly revised this definition in the year 2000, but otherwise has set and followed this definition since 1980. The CFR defines TSA as

*d. Skills that can be used in other work (transferability)*

1. *What we mean by transferable skills.* We consider you to have skills that can be used in other jobs when the skilled or semi-skilled work activities you did in past work can be used to meet the requirements of skilled or semi-skilled work activities of other jobs or kinds of work. This depends largely on the similarity of occupationally significant work activities among different jobs.
2. *How we determine skills that can be transferred to other jobs.* Transferability is most probable and meaningful among jobs in which
  - i. The same or a lesser degree of skill is required;
  - ii. The same or similar tools and machines are used; and
  - iii. The same or similar raw materials, products, processes, or services are involved.
3. *Degrees of transferability.* There are degrees of transferability of skills ranging from very close similarities to remote and incidental similarities among jobs. A complete similarity of all three factors is not necessary for transferability. However, when skills are so specialized or have been acquired in such an isolated vocational setting (like many jobs in mining, agriculture, or fishing) that they are not readily usable in other industries, jobs, and work settings, we consider that they are not transferable.

Transferability of skills analysis is rooted in this conceptually solid SSA definition of transferable skills. The following worker and occupational characteristic codes fulfill the CFR definition of (d)2(i–iii) as follows:

- 2(i) Skill level is implied by the SVP for each WF in work history.
- 2(ii) Work activities, tools, and machines are key components of WFs.
- 2(iii) Raw materials, products, processes, or services are reflected in MPSMS codes.

The SSA model of TSA uses WF codes and MPSMS codes. The analysis also includes the amount of training and/or experience (SVP) typically required for each WF. These codes are fully described in the *Revised Handbook for Analyzing Jobs*. The SSA TSA results (and other occupational searches) should not exceed the residual post-injury worker profile characteristics for Strength, Physical Demands, Environmental Conditions, Aptitudes, SVP, GED-RML, and Temperaments. The maximum levels of SVP, GED-RML, and aptitudes are used based on the demands of past relevant work (PRW). The maximum SVP acquired for each WF should travel with that WF in the TSA process.

In practice, many practitioners used Data–People–Things constructs or the Occupational Group Arrangement (OGA) as a proxy for this TSA process. Some even used *Guide for Occupational Exploration Codes* (GOE). This practice was largely due to the limitations imposed by the available indexes used in the printed materials of the era. As commercial software vendors and private print publishers entered the market space, new “user-functional” arrangements of the DOT-based data were published. Creative software solutions to the TSA process emerged that were much closer to the CFR TSA definition than manual or paper-based methods could achieve.

In his review of various TSA products of the era, Botterbusch (1983, 1986) concurred that the combination of WFs and MPSMS codes with SVP was the only “true method” for a TSA in rehabilitation that tried to match the residual function

achieved through an assessment of the individual with disability to the requirements of work. Truthan (1989) discussed the importance of understanding the purpose of each classification system and search results obtained, whether by manual or automated means.

### *Importance of Search Strategy*

With printed books, only several search strategies are possible. Searches by OGA not only produce some good matches but also miss a few and introduce more that do not fit the SSA definition due to variance from WF. The development of computer-based systems enabled the introduction of many more search methods and linkages between various systems to enable retrieval of supplemental material useful to planning, evaluation, and adjudication. These systems include the following.

#### **Occupational Group Arrangement**

The first three digits of the DOT code refer to one of the 566 OGA groups into which DOT occupations have been classified. The OGA was used heavily for TSA process prior to the automated efficiencies enabled by using WF and MPSMS.

#### **Data-People-Things**

The DPT worker functions were generally also used as a paper-based proxy for TSA in the pre-computer era. Arranged as a loose hierarchy, this framework is very useful for cross-occupational group searches. Two-thirds of the codes reference 50 or more WFs. The “hierarchical” structure holds generally true for the data and people dimensions, but is far less clear for the Things dimension. This can be a very useful mechanism for career exploration, but not for transferability in the SSA model because of the breadth of WFs typically covered.

#### **Work Fields**

The use of the WF codes more finely focuses the search process to a clearly shared group of highly related work activities (same three-digit WFs). Example three-digit codes are precise and specific:

- 081—Welding
- 082 —Flame Cutting—Arc Cutting—Beam Cutting
- 083—Soldering—Brazing

Generally related work activities (two-digit WFs) not only produce an expanded set of possible occupations but also introduce occupations that may require some adjustment and possible supplementary training. For example, the two-digit WF “08” groups occupations in these three codes because of the similarity of “Joining or cutting materials by means of a gas flame, electric arc, laser beam, combination welding process and soldering” (p. 4-4, *Revised Handbook for Analyzing Jobs*, DOL, 1991).

**Material, Product, Subject Matter, Services**

When occupations are identified that share a WF from work history are further qualified by examining the MPSMS code (such as the kinds of materials welded or the products produced by welding, such as metal office furniture or fabricated metal products), a much more clear understanding of what a worker did in an actual position emerges.

With multiple jobs in past relevant work experience, intriguing new combinations of various WF and MPSMS codes can lead to interesting new opportunities within residual functional capacity with minimal adjustment built on skills, abilities, and experience acquired through prior work history. This is transferability at its best, and actually comes close to “the experience” requirement that HR personnel seek when hiring.

WFs cut across OGA groups efficiently. Based on author frequency count analysis across the 566 OGA groups, an average of nearly seven WF is represented per OGA group. Only 10% ( $n = 57$ ) of the OGA groups have only one WF, yet every WF was found in no fewer than three OGA groups. On average, more than eight MPSMS codes are found in each OGA group. This is a clear evidence for the considerable heterogeneity of the OGA classification and the ability of the WF and MPSMS code systems to cut across traditional occupational groupings as a cross-occupational descriptor.

**Guide for Occupational Exploration**

Searches by GOE code produce occupations related only by general interest, not by related skill or ability. Having a common interest in an area reveals nothing about actual acquired skill or ability. Yet, it is a useful search strategy in the career exploration process, particularly when interests are not well defined or are quite vague.

**Holland (RIASEC)**

Search by RIASEC coding (an interest construct created by John Holland (1973) is also a helpful method for identifying occupations useful when career planning and transitioning from one career to another. RIASEC coding has been loosely linked by the DOL to the O\*NET classification. Many interest testing instruments and inventories report results using RIASEC coding. Lowe and Lungrin (2012) speak at length about how to use these codes and others to find a good fit between work and personal interests/needs.

**Occupational Information Network**

This online resource reports a great deal of information about occupations and has some interesting new tools to facilitate searching. Although the least aggregated of all classifications compared to the DOT, it still lacks the occupational detail required by SSA and many rehabilitation case managers in a variety of public and private settings. The O\*NET is intended primarily as a career information and exploration tool for job seekers without disabilities and workforce development professionals. Search by Tools and Technologies (T2) and Detailed Work Activities (DWA) may reveal occupations useful in career transition.

### Classification of Instructional Programs

The CIP codes are used by educators to classify the content of various fields of study and program completion activity. These codes have been linked to O\*NET and the DOT. Searches based on CIP codes can be useful to examine occupations for which a person may be trained and the various demands associated with doing those occupations. If a person has already been trained in an area, it may point to other transferable occupations.

### Registered Apprenticeship Partners Information Data Systems

Links O\*NET occupations to apprenticeship programs when this type of training is possible.

### Industrial Designations or Designated Industry Classification

This DOT classification has a special section in the printed volume. It groups occupations as commonly found in 140 defined "industries." These designations can be helpful in graduated return-to-work (RTW) planning within the same employer.

### Standard Industrial Classification

An older, four-digit, and now obsolete system of classifying industry by principal business activity, not by occupations. Many manufacturer guides and marketing lists provide information using these categories. These can be useful for Job Search and for Labor Market Survey.

**North American Industry Classification System.** Introduced following the North American Free Trade Agreement (NAFTA) in 1993, NAICS is a six-digit, more modern system of industrial classification designed to promote free trade with Canada and Mexico. All government labor market statistics are now reported using the NAICS system. Some survey data (OES Annual and Employment Projections) report data at the three-, four-, and sometimes five-digit level. This information may also be helpful to graduated RTW planning.

**Military Occupational Classification (MOC).** Some branches of the military have developed their own classification systems to meet their special and unique purposes. Upon separation from military service, by choice, disability, or by reduction in force (RIF), veterans need to translate their experiences into terms useful in the civilian labor force. Military to civilian transition is facilitated through the O\*NET structure.

**Career Clusters.** Sixteen Career Clusters form the core framework for 79 distinct Career Pathways designed to make selection of curriculum easier in pursuit of post-secondary training. There are also cross-references from Career Clusters to CIP, SOC, and O\*NET codes.

Figure 15.1 summarizes various search methods and interrelationships among the various systems. Each system was designed for its own purposes. In the field of rehabilitation and disability management, some of these classifications can be quite useful. Searching these codes is possible using computer-based systems. Without a computer, searches are arduous when done manually and require multiple printed books, indexes, and cross-references.

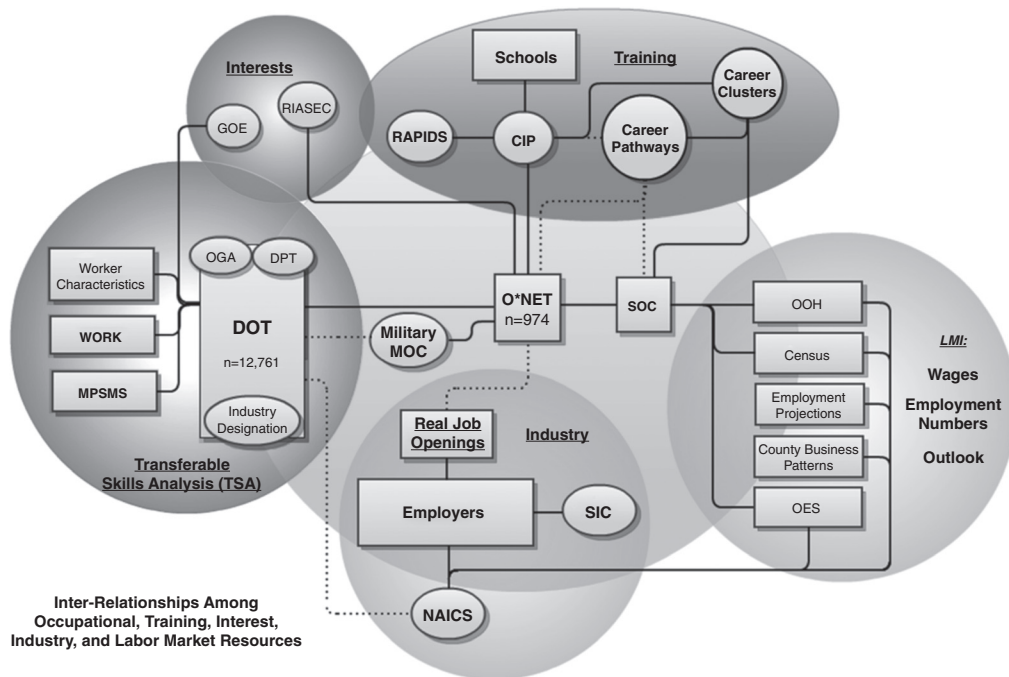


Figure 15.1 Various coding systems and interrelationships.

Table 15.1 suggests a variety of ways in which various code systems can be used in specific, common rehabilitation settings.

### *Vocational Guidance/Job Matching*

Figure 15.1 shows that navigation through the maze of available occupational and labor market resources is complex and can be confusing. When working with people who have disabling conditions, the process of seeking alternate occupational opportunities should begin by careful examination of the individual's prior work history (if any) and the current and projected residual functional capacities after maximum medical improvement (MMI). Depending on the venue and constraints of the client, interests and untapped aptitudes may be factored into the job-matching processes. In legal, Social Security, insurance claims processing, and workers' compensation venues, there are statutory and policy constraints on how the range of occupational options can be examined. The bottom line is to know the needs of your client within the program or jurisdiction in which the services are provided. Choose search methods that you know and understand that fit those specific needs. Interpret information wisely. Supplement information using multiple data sources when possible.

The general sequence of guidance/job matching moves in distinct steps and involves different data sources at each step. This sequence and steps include:

1. Work history (past relevant work [PRW] for SSA) if any
2. Residual functional capacity (RFC) after MMI
3. Job-matching search method(s)

**Table 15.1 Suggested Search Strategies by Venue**

Setting	Function	Search Codes
Social Security	Claims Adjudication	DOT, <b>TSA*</b>
	Ticket to Work	Interests, CIP, OGA Industry
Long-Term Disability	Claims Management	DOT and <b>TSA*</b>
	Retraining	Interests, CIP
Workers' Compensation	Return to Work	Industry, DOT, <b>TSA*</b>
State VR	Assessment, Planning, Placement	O*NET, CIP, <b>TSA*</b> Interests
Veterans rehabilitation	Assessment, Planning, Placement	MOC, O*NET, CIP, Interests
Corrections	Assessment, Planning, Placement	Interests, O*NET, DOT
Workforce development	Job Matching	O*NET
Welfare – Workfare	Assessment/Training	Interests, <b>TSA*</b> , CIP, O*NET
Schools – special education	Assessment/Planning	Interests, O*NET
Career transition	Assessment	Interests, O*NET, DOT
<b>Personal Injury Cases</b>		
Injury to children	Evaluating Potential	DOT/(O*NET)
Workers' compensation	RTW/Employability	DOT/O*NET
Catastrophic injury	RTW/Employability/LOEC	DOT/O*NET
Wrongful death	Future Lost Earnings	LMI–O*NET
Spousal support	Employment Potential	DOT/O*NET/LMI
<b>TSA*=WF+SVP+MPSMS</b>		

4. Review of the set of occupational possibilities
5. Feasibility of selected occupations in a specific location
6. Employability of the individual
7. Placeability of the individual in a given location

The process begins in a similar way for all clients.

#### **Step 1: Identify Jobs Performed in a Person's Work History**

From available records and/or interview with the client, family, or employer, gather as much detail as possible about past work performed. Use the DOT to examine occupational definitions. Choose the DOT occupation(s) that best capture the duties performed by the person. Make sure s/he worked in the position long enough to have acquired the skills associated with the occupation (i.e., meet the SVP level). Choose multiple DOT occupations as needed to describe one job position held. Multiple WF and MPSMS

codes enhance the TSA search process. Ideally, verify your selection of DOT occupations with the individual to confirm your choices. Do not overlook a person's military, college/training, or significant volunteer experience, as these can contribute to a useful skill set. If there is no work history, then consider any educational/training history, transcripts, and test results.

Using an electronic or paper-based form like the Transferability Worksheet (published by E & F, Inc., Ref. W601, 1992), record your selections and all of the worker characteristics associated with that DOT occupation, such as are contained in the SCO-DOT (U.S. Department of Labor, 1993) or *The Transitional Classification of Jobs* (Field & Field, 2004). Computer-based programs retrieve all these information effortlessly and document it in a report format. Note all codes that you expect to search in a later step.

Assuming that there are two or more jobs in the work history, we identify the highest level of demonstrated functioning from each of the work history profiles. For instance, if three different jobs had a strength rating of sedentary, light, and medium, the letter "M" for medium would be entered in the "Unadjusted Vocational Profile (UVP)" line on the worksheet to represent the highest level of demonstrated strength from Work History. The same procedure would be used for all the worker traits. Be careful that you record the proper value as some scales go in opposite directions (Note: GED is 6 high and 1 low while aptitudes are 1 high vs. 5 low [really none]). Computer-based systems scan and calculate these data rows automatically.

## Step 2: Determine the Residual Functional Capacity

The RFC is an adjustment of the UVP line, taking into consideration any restrictions imposed by disease or injury. For instance, a worker who had been able to work at medium jobs pre-injury (prior to a Lumbar 4–5 accident) might now only be able to work at sedentary jobs. Accordingly, the "M" factor would be adjusted to an "S" on the worksheet. The same procedure would be used in adjusting any or all of the other worker traits. Sources of information that would help decide any adjustment include medical, physical/occupational therapy, psychological reports, and/or psychometric testing and vocational evaluations.

Based on medical opinion, forecast what the maximum level of vocational functioning may be post-recovery. Also, if the client desires to learn about possibilities with training, be sure to adjust GED and SVP levels to appropriate post-training target levels. Incorporate test results for aptitudes, when available. Use good judgment when interpreting test results. Test results reflect performance on a specific day in an unfamiliar environment versus aptitudes, which have been clearly demonstrated from actual prior work performance. Unless an existing disabling condition impacts performance, avoid adjusting aptitudes, downward. For unusual/ambiguous case situations, see "Tips & Techniques" at [online.skilltran.com/support](http://online.skilltran.com/support).

Sometimes, there is conflicting information presented from different medical sources. In this circumstance, prepare different RFC scenarios and search using each of these differing scenarios to better grasp the vocational impact of each scenario.

Just as in calculating UVP, keep in mind the meaning of the ascending or descending values of scales (GED, SVP, and Aptitudes). Computer-based programs may allow you to ignore certain factors altogether. Be sure to adjust only those factors relevant to the injury and for which you have supporting evidence of functioning at the chosen level. Be prepared to defend each of your choices when asked. Certain RFC adjustments have a huge impact on the DOT occupations, such as Occasional Reaching, Handling,

Fingering, or Near Acuity. Frequency counts, such as listed in the *Pocket Guide to the Dictionary of Occupational Titles and the Characteristics of Occupations* (SkillTRAN, 2010), can guide your choice of RFC values.

### Step 3: Search for Matching Occupations

This is the critical step to discover occupations that fulfill your case needs. Use Table 15.1 to guide your choice of codes to use for searching. Your choice of search method(s) ties to the relevance of the search results (Truthan, 1989). While all these methods may be replicated manually, it is usually not time efficient to do so. Computer-based software performs this step swiftly and with great accuracy. Most software programs allow multiple search methods, but usually search using only one method at a time. While the results produced from different searches may overlap some, usually there are completely different ideas that emerge from using multiple search methods. Sometimes the venue completely controls the search method used (Field & Weed, 1988).

For manual, book/paper-based transferable skills analysis, follow these suggestions:

- a. Examine the same occupational area (OGA) that represents the primary job history of the worker. Look for other occupations by OGA groups from PRW. For example, if the worker has held two or three jobs in the “machine trades” (OGA “6XX”), then it makes good sense to attempt to find similar or related titles in the same “machine trades” area. This is a critical first step in assuring that new jobs will have the same general work requirements (aptitudes, knowledge, and capacities) as previous jobs. It does not make good sense, for example, to place a person in the “service” industry (with lots of “people contact”) that has had 30 years of experience in the “machine trades” (with little people contact).
- b. Within the OGA, stay within the same WF, or one closely related. This step will insure that a person with a good work history in machining (WF 057), for instance, will be able to transfer to similar or related jobs with the same or similar work skills (e.g., method or active verbs, machines, tools, equipment, and work aids). Remember, work skills are best represented by aptitudes, knowledge, and capacities related to a specific area of work. Identifying a job or jobs for a person with the same work skills as previously demonstrated makes good sense.
- c. Identify jobs within the same OGA group and the same WF that are equal to or less than the requirements of the various worker trait factors in the adjusted RFC profile.

This procedural approach quickly permits the user to narrow the 12,761 jobs listed in the DOT to a small number of occupations that fall within the worker’s range of experience, skills, capacities, and functional restrictions. From this shorter list of occupations, the user would select the “most appropriate” jobs by taking into account other relevant worker trait data and the preferences of the worker (if possible).

When using a computer-based application, the search process is done in seconds and can be a far more sophisticated search, examining the multiple WF and MPSMS codes of work history. This method more closely emulates the intent of the CFR definition of TSA. Multiple search scenarios can be also be easily and quickly done, particularly to explore the vocational impact of different hypotheticals. It is recommended that computer-based searches begin with the most stringent searches possible (all three digits of the WF and MPSMS codes). If “not enough” occupations emerge, then repeat the search using a less stringent combination of WF and MPSMS. Different software vendors use different labels to describe these various search methods. SkillTRAN and OASYS, for example, use these labels (Figure 15.2).

# SkillTRAN – OASYS TSA Searches

<u>TRANSFER</u>	<u>SkillTRAN</u>	<u>WORK</u>	<u>LEVEL</u>	<u>MPSMS</u>	<u>OASYS</u>	<u>TRAINING</u>
<u>Same</u> 3-Digit Match	Directly	Same	1	Same	Closest	Minimal
		Similar	2	Same	Good	
	Closely	Same	3	Similar	Good	Minor
	Generally	Similar	4	Similar	Good	Moderate
		Same	5	Not Used	Fair	
		Similar	6	Not Used	Fair	
		Not Used	7	Same	Fair	
		Not Used	8	Similar	Fair	
	Within Basic Capacities	Not Used	9	Not Used	Potential	Substantial

Figure 15.2 SkillTRAN labels for various TSA search methods.

Other search methods can also be used, depending on the venue. Some are possible only when using software, since indexes and cross-references to the other code systems may not have existed when the DOT was first published.

From all search methods, manual or computer-based, there will be a group of occupations produced, unless the RFC is so restrictive that no occupations emerge. Such a result set is a valid indicator provided that the RFC and PRW are correctly coded and supported by case evidence.

#### Step 4: Review Occupational Possibilities

Finding similar or related jobs for a worker following disease or injury is not an exact science. Rather, the TSA and other search methods can result in the selection of some reasonable and common-sense selections that would be appropriate for the worker. Computer-based searches can find a spectacular number of occupations, but many may be inappropriate. Results of all search processes should be carefully reviewed and screened for “reasonableness.” Carefully review the suggested list for any additional factors that may be nonstandard factors in the DOT, such as sit/stand at will, reaching overhead, one hand/arm limitations, or similar conditions applicable to the case. Some DOT occupations that may emerge may indeed be possible according to the PRW and RFC criteria, but may be highly inappropriate for the geographic area. Use professional judgment. Simply attaching a list of computer-based search results without review, comment, or examination of Steps 5 and 7 may be meaningless or possibly even harmful to the client.

**Step 5: Feasibility of Selected Occupations in a Specific Location**

Manual and computer-based search results can produce a lengthy list of possible occupations. The list can be massaged considerably by examining cross-referenced sources of labor market information (LMI), including wages, employment numbers, long-term outlook, industry, and local opportunities for employment or training (depending on client requirements). Since LMI is not collected at the DOT level, it is necessary to cross-reference to alternate systems such as Census, OES, and CIP. This is best accomplished using either commercial software or public resources such as

O\*NET—[www.onetonline.org](http://www.onetonline.org)

Career OneStop—[www.careeronestop.org](http://www.careeronestop.org)

(see also the comprehensive list presented in Table 17.2)

Public resources often link to many other websites, whereas commercial software generally assembles all these information into a standardized format that does not require Internet access. One company, SkillTRAN LLC, has created a highly specialized estimation method to interpret aggregated public LMI for employment numbers down to the DOT level. Advantages of commercial software include a common interface to a wide variety of data, extra features to interpret data more easily, and it can work in a courtroom, doctor's office, or rural client home without Internet connectivity.

**Step 6: Employability of the Individual**

Employability requirements of the individual require considerable professional judgment. These factors exist outside the context of what a person could actually do and address issues like:

- a.* Transportation to job site—such as by car, bus, ride-share, or walk/bike
- b.* Absenteeism—ability to work each day, on time, as scheduled, on the required shift
- c.* Appearance—personal grooming, appropriate clothing
- d.* Communication skills—language, social, supervision, attitude
- e.* Learning style—rate, retention, repetition, directions
- f.* Work habits—safety, attentiveness, cleanliness
- g.* Family/external supports—child/elder care
- h.* Job-seeking skills—résumé, interviews, application process, online job seeking, social media sites, interpersonal networking

**Step 7: Placeability of the Individual in a Given Location**

When the pool of potential occupational goals has been winnowed down to a handful of occupations for placement or the litmus test of a labor market sampling/survey, then it is time to face the reality of a local labor market. Determine the reasonable commute range for the individual (sometimes this is defined by the needs of the client) and the relevant industries in which target occupations may exist. Research the employers in those industries, of proper size (number of employees), to determine if there are plenty of potential employers available to hire for the targeted occupations. Companies should be of sufficient size in order to increase the probability of identifying employment

options. If the findings are questionable or if there are special circumstances in placing a particular individual, make phone calls using appropriate labor market survey strategies. Potential public resources to obtain this information are

- State manufacturing guides
- Chamber of commerce memberships
- County business patterns
- Online phone books—yellow pages
- State employment—workforce development boards
- Job aggregators: [www.monster.com](http://www.monster.com), [www.simplyhired.com](http://www.simplyhired.com), [www.indeed.com](http://www.indeed.com), [www.careerbuilder.com](http://www.careerbuilder.com)

Sometimes, employers are reluctant to publicly post position openings since they do not want to be inundated with hundreds of applicants or they are recruiting for emerging or particular kinds of jobs that may not occur through many publicly available job boards. This is called the “hidden job market” and requires digging to find the “right doors” on which to knock. A public resource (one employer at a time) is [www.careerinfonet.org/employerlocator/employerlocator.asp](http://www.careerinfonet.org/employerlocator/employerlocator.asp)

Commercial software companies and websites also sell business listings which are useful as employer lists for labor market survey. SkillTRAN, LLC has a commercial database of employers designed to facilitate the connection of job seekers with potential employers via a proprietary linkage it developed between the DOT and relevant NAICS codes of employers. When using any resource for employer listings, learn about how recently the data were collected and the limits/constraints of each data source.

### ***Computer-Based Approaches***

Computer-based systems are available from a number of vendors. All operate in a similar fashion in terms of building a work history and enabling RFC adjustments. Search methodologies and occupational databases vary significantly. Databases modified from the standard DOT database distribution may not be accepted in certain venues. It is important to remember the following:

- Be sure to accurately code work history and RFC.
- Not all software programs search the same way.
- Each different program generates a different set of results.
- There can be substantial variation between similar methods.
- Search *strategy* matters!
- How you define “skill”/“skills analysis” may vary by venue.
- Your search strategies should match the needs of your client.
- Carefully review each suggested occupation for reasonableness.
- Use of multiple systems is a good idea to explore all search methods.
- Select software vendor(s) to fit the clients that you serve.
- Understand completely how the system works to be able to defend it well. In forensic situations, the admissibility of some search methods can/will be challenged. The author’s thoughts on this topic are posted at [online.skilltran.com/support/Daubert-Kumho.htm](http://online.skilltran.com/support/Daubert-Kumho.htm).

Table 15.2 presents contact information for a variety of commercial software vendors.

Table 15.2 *Commercial Software Vendors*

Vendor	Product(s)	Database
Career Planning Specialists LLC www.careerplanningspecialists.com (734) 459-7348	Open Options	Modified DOT
ECI-Endeavors Kenneth Dennis (800) 595-4033	Vocational Software	Unknown
Economic Research Institute (ERI) www.erieri.com (800) 627-3697	PAQ/eDOT Occupational Assessor	DOT/Modified DOT LMI & Employers
Billy McCroskey Vocationology, Inc. www.vocationology.com (763) 569-0680	McCroskey Vocational Quotient System (MVQS)	Modified DOT LMI
SEER – Robert Hall www.seersoftware.net (619) 463-9334	Software for Employment, Education, and Rehabilitation	O*NET
SkillTRAN LLC www.skilltran.com (800) 827-2182	OASYS, OccuBrowse+ Job Browser Pro, Placement Planning Service (PPS), Pre-Injury/Post-Injury Analysis (PREPOST), Career Consulting Service (CCS)	DOT/O*NET & Employers LMI/Schools
VocRehab Inc. Tom Jozaitas vocrehab.com (800) 365-5449	Career A.I. WebTSA	DOT LMI

## CONCLUSION

Transferable skills analysis is a time-honored and time-tested method for reasonably selecting similar or new jobs for people following illness or disability. The most critical ingredient in the determination process is the activity and preparation of the practitioner. In cases where the online O\*NET or a commercial computer program is used, information that is input to the program is determined by the practitioner. Likewise, any report, including job recommendations, generated from the computer process need to be carefully scrutinized for relevancy and appropriateness. Ultimately, the TSA process is a method for processing occupational information about an individual's level of skills and the potential ability to use those skills in a variety of reasonable (post-injury) occupations supported by relevant LMI.

## SUGGESTED ADDITIONAL READING

Reference List on Transferable Skills—[www.skilltran.com/support/TSAResourceList.htm](http://www.skilltran.com/support/TSAResourceList.htm)  
 DOT History—[www.skilltran.com/support/DOT\\_History.htm](http://www.skilltran.com/support/DOT_History.htm)  
 Forensic Fights—[www.skilltran.com/support/Daubert-Kumho.htm](http://www.skilltran.com/support/Daubert-Kumho.htm)  
 Going Forward—What's Next?—[www.skilltran.com/support/goingforward.htm](http://www.skilltran.com/support/goingforward.htm)  
 Glossary (Alphabet Soup)—[www.skilltran.com/support/glossary.htm](http://www.skilltran.com/support/glossary.htm)  
 O\*NET versus the DOT—[www.skilltran.com/support/ONETvDOT.htm](http://www.skilltran.com/support/ONETvDOT.htm)  
 Tips & Techniques for Common Case Situations—[www.skilltran.com/support/tips\\_techniques.htm](http://www.skilltran.com/support/tips_techniques.htm)

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